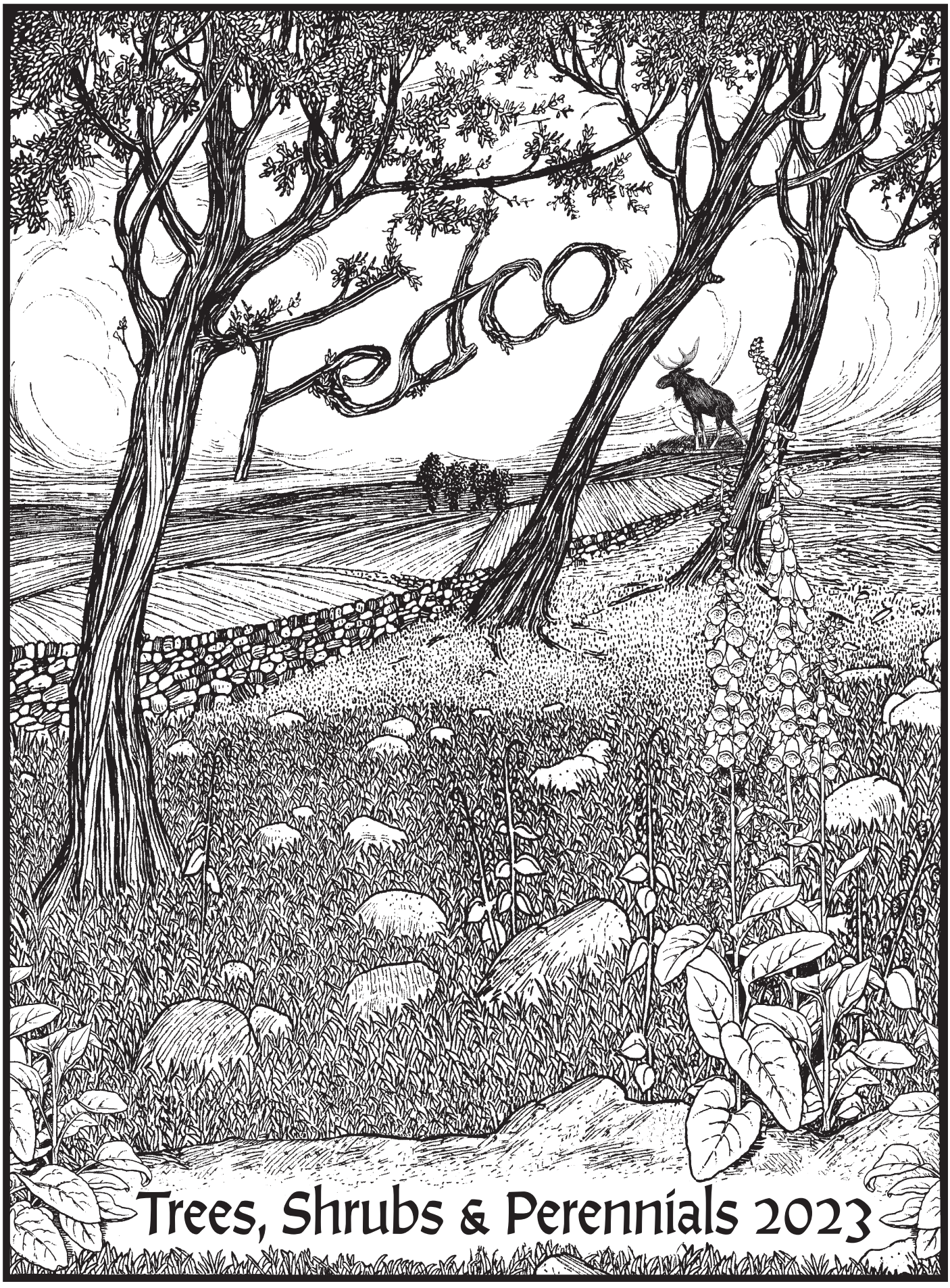

Trees, Shrubs & Perennials 2023

FEDCO TREES 2023

Welcome to Fedco's 39th annual tree order.

Our goal is to provide the hardiest and healthiest plants available for cold climates, while supporting plant diversity, small-scale local agriculture, and a fair, cooperative and responsible workplace. Fedco is a small consumer/worker-owned cooperative founded in 1979. Our workspace is low-frills; we value fair pricing and livable wages. Profits are redistributed to consumer and worker members. Consider joining our co-op or applying for employment with us!

This year's final ordering deadline is **March 3**. Please note our discount structure for large orders and our discount deadline. All orders are shipped in spring.

As usual, we have varied our plant selections. We offer most of the old favorites every year and rotate through dozens of new offerings. You'll find new fruit trees, ornamentals and perennials throughout the catalog. We contract with dozens of growers and the bulk of our supply is grown locally on small diversified farms. While we do not label our woody plants as organic, nearly all of our fruit trees and many of our shrubs are grown by these standards, tended by hand and cultivated with horses. Many of our herbaceous perennials are certified organic and labeled as such.

If you have questions or concerns about your order, please contact us. If you are looking to place a very large order, drop us a line to discuss the options. We're here to help. If you haven't already, check out our **Seeds & Supplies** and **Bulbs** catalogs. If you enjoy this one, we're pretty sure you'll like those, too. We invite you to share with us your experiences growing plants. Many of our selections result from your suggestions. If you know of something growing near you that we should be offering, please write to us: questions@fedcoseeds.com

fedcoseeds.com/trees

A Thorny Inheritance

With summer behind us, we take stock of the abundance and the challenges near and far. Our hands in the soil ground us even while, at times, our hearts float away. We count the days till rainfall, and our moods swing with the weather. If you tend to plants, you are anchored by the seasons and their rhythms. Lately the anchor has dragged a bit, the mooring feels less secure. There is a lot of handwringing, but when a favorite flower blooms or when the crops come in, we are joyful.

The plants we offer within these pages all carry fascinating stories. Some are native to North America, and some are so thoroughly naturalized and beloved that we forget they're from afar. Plants have been journeying across continents on this bumpy ride around the sun for much longer than humans. In the guts of animals and aloft in the wind, seeds moved across wide stretches of prehistoric land. People came along and carried plants along trade and migration routes. Seeds and scions passed from hand to hand, in love and in commerce. Without all this movement, our grocery store shelves would be quite bare, and our gardens would not contain apples from Kazakhstan, roses from ancient Persia, or heather from the British Isles, just to name a few.

While we acknowledge the benefits we reap from this rich plant inheritance, we also note the imbalances inevitable to a globalized landscape. Disruption of local ecologies and a Pandora's box of pathogens and pests are the flip side to the abundance. As growers we are faced with tough questions: Which plants do we yank, and which should stay? How do we responsibly steward non-native plants that we feel enrich our lives? How do we live and garden in ways that are creative, responsible and collaborative? Sometimes the answers seem clear; at other times, not so much.

We invite you to consider the tough questions posed throughout this catalog. We can all work toward answers. We're grateful you're here with us thinking about what to plant next. Thank you for caring. We hope your gardens grow well in 2023.

– The Fedco Trees Team

John Bunker, Laura Childs, Jacob Mentlik and Jen Ries wrote plant descriptions. Elisabeth Benjamin edited with help from Emily Felger, Joanna Linden and Emily Skrobis. Laura Childs and Alicia Letteney did the layout.

Fedco Trees Guarantee Policy

Please inspect your order upon receipt and notify us immediately if something is missing or incorrect. Occasionally, plants incur damage during shipping. If limbs or tops are broken, prune to the next good bud. The plant will do fine. We guarantee to ship you a plant that is healthy, will leaf out, and is true to name. We expect that you will care for the plant from the moment it arrives, plant it in a timely fashion, water it (about 1" per week after bud swell) and protect it (see pp. 67-70.) Because we have no control over growing conditions such as weather, soil, cultural practices, pests, wildlife, or weed whackers, we cannot guarantee a plant's survival past leaf break. If you see no sign of life, scratch the outer bark with your fingernail. If the inner bark is green, the tree is still alive. Some plants take longer than others to break dormancy, so you may need to be patient. If you have thoroughly cared for the plant and it does not leaf out, we will issue a refund or gift certificate credit. We cannot offer replacements. Inevitably, some plants die through no fault of yours or ours. If a plant dies during the first growing season, don't hesitate to contact us. We will work with you to determine what went wrong. We are partners in the endeavor of filling the planet with plants and we want you to succeed. **Claims for errors in your order must be presented within 30 days of receipt of your order. Claims for any product defects should be presented as soon as possible after discovery and must be made no later than July 31 of the year the plant was received.** We do not guarantee plants that are potted by you, except for perennials, which are the only plants we recommend for temporary potting. We are not responsible for the quality of plant material in the event your package is not promptly opened. For scionwood or rootstock orders, we do not issue refunds or replacements based on diameter of wood. We are not responsible if your grafts fail.

We limit our liability in all instances to the purchase price. The liability of Fedco Seeds, Inc., for breach of warranty, or any loss or damages arising out of the purchase or use of our products, including loss or damages resulting from any negligence whatsoever on our part, or strict liability in tort, shall be limited to the purchase price. By acceptance of the merchandise, the buyer acknowledges that the limitations and disclaimers herein described are conditions of sale, and that they constitute the entire agreement between the parties regarding any warranty or liability. Failure to assert claims within the aforementioned time frame renders this warranty null and void.

New for 2023 (or back after a long absence!)

- New Fruits, Berries, Grapes & Hops!
- Henry's Garnet Sweetspire
- Alice Hydrangea
- Basket Willow
- Red December Winter Heath
- White Snakeroot
- Common Blue Violet
- New Crabs and Roses!
- New Heathers!
- New Peonies!
- New Perennials!

Important dates & deadlines

- **Volume discount deadline**, Friday, **January 13, 2023**
- **Ordering deadline** (except scionwood), Friday, **March 3**
- **Shipping** by FedEx, beginning late March, through May 5

- **Scionwood order deadline**, Friday, **February 17**
- **Shipment of scionwood** & rootstock starts around March 13.

Ordering Instructions, see page 34.

- Order online at **fedcoseeds.com/trees**. You can also check product availability and see color photos of most of our trees, shrubs and perennials.
- **Volume discounts: Order by January 13!**
  Orders $100 & over deduct 5%
  Orders $300+ deduct 10%
  Orders $600+ deduct 15%
  Orders $1200+ deduct 20%
- We no longer offer order pickups, but **Maine customers** pay only $10 or $25 flat-rate shipping!

Indigenous Royalties

Fedco will donate 10% of sales on varieties bearing Native American names to Nibezun, a Wabanaki project in Maine that is working to rematriate Penobscot land and to create dialogue on healing throughout the extended community. For more about Indigenous Royalties, see page 25.

FEDCO TREES
Coriander · Farm · Orchard

Where is everything?

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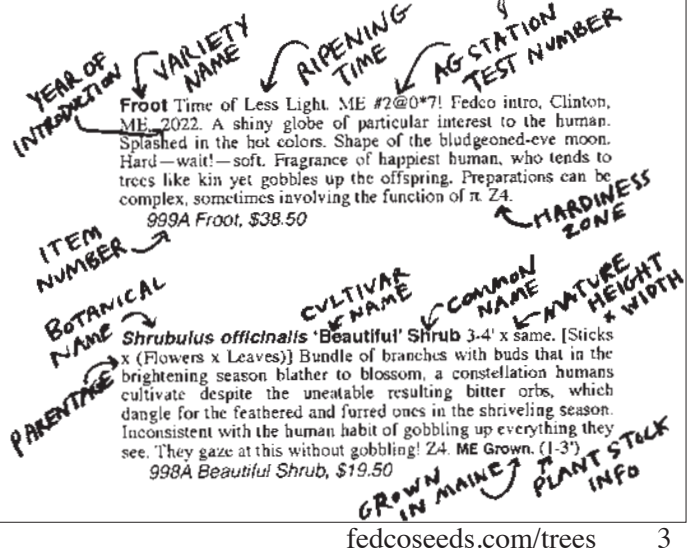
Our Variety Descriptions –

- **All trees and plants are bare-rooted** (except where noted). Because of the nature of dealing with living commodities, **size variations will naturally occur** within each crop.
- For fruit trees and berries, the **exact dates of peak ripeness** will vary from place to place.
- The **zone hardiness rating** will aid you in determining whether a plant will be hardy for you. The average minimum temperature in your area determines your zone (chart on p. 71). All plant descriptions list the coldest hardiness zone. Your own soil conditions, microclimate and topography will be equally important in determining the best varieties for you.
- Please note **pollination requirements** for fruits, nuts and berries. Some plants are self-pollinating, others require a second plant for pollination, and others require a second variety.
- We strive to give you accurate information about all the plants we sell. If you notice inaccuracies, please let us know.

Abbreviations:
ME Grown = grown in Maine at one of our small local nurseries.
PPA = Plant Patent Act.


YEAR OF INTRODUCTION
VARIETY NAME
RIPENING TIME
AG STATION TEST NUMBER
Froot Time of Less Light. ME #2@0*7! Fedco intro, Clinton, ME, 2022. A shiny globe of particular interest to the human. Splashed in the hot colors. Shape of the bludgeoned-eve moon. Hard—wait!—soft. Fragrance of happiest human, who tends to trees like kin yet gobbles up the offspring. Preparations can be complex, sometimes involving the function of π. Z4.
999A Froot, $38.50
HARDINESS ZONE
ITEM NUMBER
BOTANICAL NAME
CULTIVAR NAME
COMMON NAME
MATURE HEIGHT x WIDTH
PARENTAGE
Shrubulus officinalis 'Beautiful' Shrub 3-4' x same. [Sticks x (Flowers x Leaves)] Bundle of branches with buds that in the brightening season blather to blossom, a constellation humans cultivate despite the uneatable resulting bitter orbs, which dangle for the feathered and furred ones in the shriveling season. Inconsistent with the human habit of gobbling up everything they see. They gaze at this without gobbling! Z4. ME Grown. (1-3')
998A Beautiful Shrub, $19.50
GROWN IN MAINE
PLANT STOCK INFO

Pick the Right Apple!

	Apple Variety	Season	All-Purpose	Fresh Eating	Storage	Cooking	Pies	High Flavor
101	Almata	summer		●		●		●
103	Arkansas Black	winter		●	●	●		
104	Ashmead's Kernel	winter		●	●			●
106	Baldwin	winter	●	●	●	●	●	
108	Belle de Boskoop	winter		●	●	●		●
112	Black Oxford	winter	●	●	●	●	●	
113	Blue Pearmain	winter	●	●	●	●	●	
114	Burgundy	fall		●		●		●
115	Calville Blanc d'Hiver	winter	●	●	●	●	●	
117	Canadian Strawberry	fall		●				●
119	Cherryfield	winter	●	●	●	●	●	●
120	Chestnut	fall		●		●		●
122	Cole's Quince	summer				●	●	
124	Cortland	fall	●	●		●	●	
125	Cox's Orange Pippin	fall		●				●
128	Duchess of Oldenburg	summer	●	●		●	●	
130	Esopus Spitzenburg	winter	●	●	●	●		●
131	Etter's Gold	fall		●	●			●
132	Fameuse	fall	●	●		●	●	
133	Frostbite	fall		●	●			●
134	Gideon	summer		●		●		
135	Ginger Gold	summer		●				
137	Golden Russet	winter		●	●			●
138	GoldRush	winter		●	●			●
140	Gray Pearmain	winter	●	●	●			●
141	Green Monster	winter			●	●		
142	Grimes Golden	fall	●	●	●	●	●	●
143	Holstein	fall		●			●	●
144	Honeycrisp	winter		●	●			●
145	Hudson's Golden Gem	fall		●	●		●	
146	Hurlbut	fall		●		●		
147	I-95	fall		●	●			
148	Kandil Sinap	fall		●	●			●
149	Keepsake	winter	●	●	●	●		
150	Kennebec Russet	fall				●		
151	King David	fall	●	●	●	●	●	●
152	Koidu Reinette	summer		●		●		
153	Liberty	fall	●	●		●		
156	McIntosh	fall	●	●		●		
159	Northern Spy	winter	●	●	●	●	●	●
160	Norton Greening	fall	●			●		
163	Pipsqueak	fall		●		●		●
164	Pomme d'Or	summer	●	●		●		
165	Pristine	summer		●				●
166	Red Astrachan	summer				●	●	
167	Redfield	fall				●	●	
168	Rhode Island Greening	fall	●	●	●	●	●	
169	Ribston Pippin	fall	●	●	●	●		●
170	Richmond Pink	fall		●				
171	Roxbury Russet	winter	●	●	●	●		●
174	Spigold	fall	●	●	●	●		●
175	St. Edmund's Russet	fall		●				●
177	Sweet Sixteen	fall	●	●	●	●	●	●
178	Tetofsky	summer				●		
179	Tolman Sweet	fall	●	●	●	●		
180	Trailman	summer		●				●
181	Wealthy	fall	●	●		●	●	
182	Whitney Crab	summer		●				●
183	Wickson	fall		●	●			●
184	Williams Pride	summer		●		●		
185	Windham Russet	fall		●				●
188	Yellow Bellflower	winter	●	●	●	●	●	
189	Zabergau Reinette	winter		●	●	●		●
190	Zestar	summer		●				●

Choosing the right apple

Summer apples ripen in summer, are generally crisp only for a short period, do not store well, and are often best for cooking.

Fall apples store longer and are useful for a wide variety of purposes.

Winter apples ripen mid to late fall, store well, and reach their best flavor after weeks, or even months, of storage.

Dessert apples are delicious eaten raw.

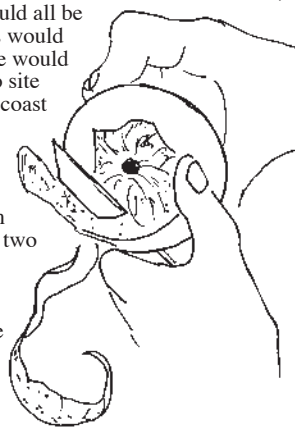
Cider apples are especially suited to making fermented "hard" cider. Some cider apples are also good dessert fruit, but most are not. See cider section on pages 16-18 and crabapples page 19.

Subacid means tart!

Russet is a skin texture (fairly common on apple varieties and on a few pears and potatoes) that looks and feels somewhat like suede.

Bloom is a naturally occurring dust-like yeast film on the skin of some varieties of apples, plums, grapes and blueberries.

Hardiness zone: The USDA plant zone hardiness map (see page 71 for chart) is a guide designed to assist gardeners and orchardists in choosing suitable plants. The zones are based on the average annual minimum winter temperature. The lower the temperature, the lower the zone rating number, and the "hardier" the plant. Zone 3 is about as cold as it gets in any part of New York and New England. Most of northern New York, Vermont, New Hampshire and Maine would all be Zone 3. The central part of the four states would be Zone 4. The southern half of each state would be Zone 5 or 6. This can vary from site to site depending on elevation, proximity to the coast and other microclimatic factors.



When choosing apple varieties, note the zone rating at the end of each description. If an apple has a Z3 rating, you will be able to grow it successfully in the coldest locations in Maine, as well as two or three zones "south." In other words, if the rating is Z3, it may be in its prime in Z3, but should do well down to Z5 or 6. Typically, it will not perform well outside of that approximate range. Note that hardiness works both ways: you can't grow mangoes in Maine, and you can't grow most apples in Florida.

Choosing a variety: Not every variety may be right for you. All-purpose apples are just that—they're good for a bunch of jobs. If you're planting just one tree, perhaps start there. However, if you're a history buff, consider the historical varieties and maybe plant one that originated nearby. If you don't eat many apples fresh but love pies, go for the pie apples. If you're a dessert connoisseur, skip all the others and go for the highly flavored dessert varieties. Some are strictly for cider. Some are great to put out at the camp for summer use. Some are perfect for those who want fall fruit but don't have a root cellar. Others keep all winter and into the following summer. Read the descriptions and consult the chart. If you have a question about a specific variety, drop us an email: questions@fedcoseeds.com. We'll try to help!

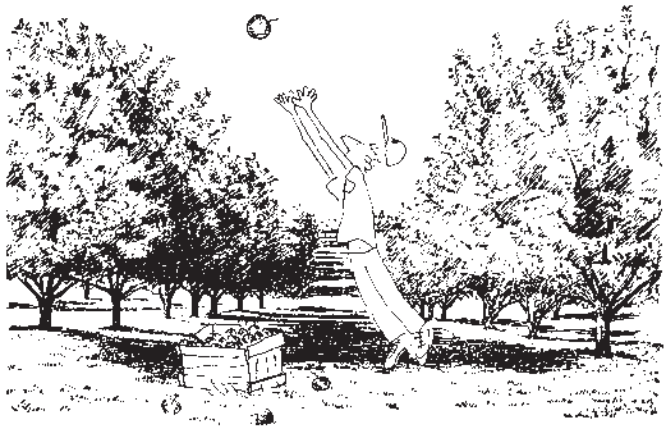
Care: Apple trees are adaptable to a variety of soils and climates, though they prefer well-drained fertile soil. See pages 67–70 for information on soil preparation, planting and pest control. Varieties that bear fruit annually are noted in the descriptions; others are biennial, usually bearing every other year. However with diligent annual pruning and thinning, most trees will produce an annual crop, heavy one year, light the next.

Pollination: All apple trees require a second variety for pollination, but any apple or crabapple blooming within a quarter mile will probably do. (Triploid apples, which do not pollinate other varieties, are noted in descriptions.) Customers frequently ask us about pollination and apples. Early season, midseason, late season bloomers—what does it all mean? Should you be in a tizzy about pollination? No. If there is at least one other apple tree somewhere in your neighborhood, the bees will do their thing, and you'll get fruit. It can be a wild roadside apple tree. It can be an ornamental crab. It can be old or young, in your yard or your neighbor's. But it must be different from yours. In other words, avoid planting ten Honeycrisps if no other apples are in sight. Most apples flower at about the same time, so timing is almost never an issue. However, if you live on a desert island with only an early bloomer and a late bloomer, you should plant a midseason bloomer, too.

Choosing a rootstock

Rootstock determines the size, longevity, hardiness and growth habits of a tree. After enthusiastic response from customers, we continue to offer an assortment of dwarf and semi-dwarf rootstocks in addition to the standard.

We offer bundles of rootstock for grafting on page 39.



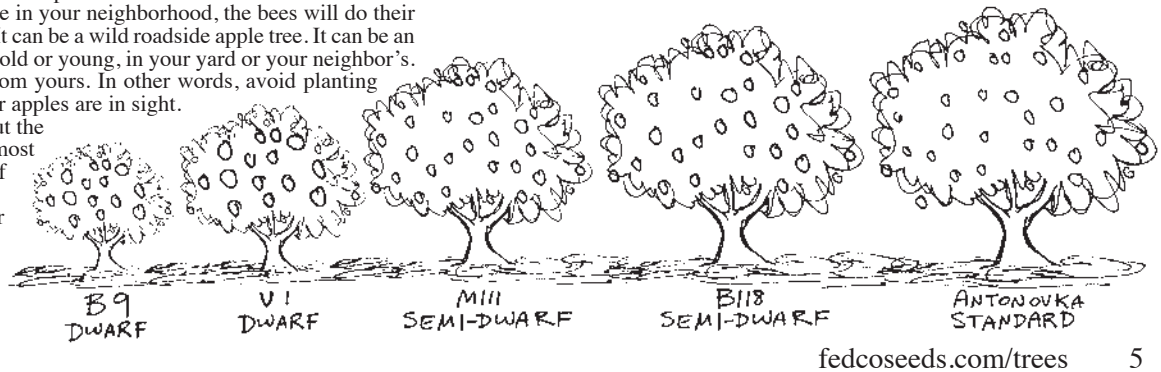
Standard rootstock: Most of the apples we offer are on standard full-sized Antonovka (and occasionally Dolgo) rootstock. Standard trees have deep, substantial—and therefore hardier—root systems. By selecting the varieties appropriate to your district, grafted on standard rootstock, you may well be planting a tree that will be picked by your grandchildren's grandchildren. Standard trees will grow to be large, but you can manage the size with pruning. The largest trees in our orchards are now about 30 years old, yet the tallest are well under 20' due to careful pruning. Although standard-sized apple trees may be planted as close as 10–15' apart, they were typically planted 30' apart in 19th-c. orchards. We generally plant standard trees 20–25' apart with good results. (Trees on standard stock are shipped at 3-6'.)

Semi-dwarf and dwarf rootstocks: We offer an assortment of semi-dwarf and dwarf apples on Bud 118, M111, V1 and B9 rootstocks. Each has great advantages for some growers, but these size-controlling rootstocks also have their limitations. Please read on and decide if they are what you want. If you are uncertain, stick with the good old standards, which are extremely rugged, hardier, more tolerant of drought and poor soils, very long-lived, and more capable of thriving under a regime of benign neglect. (Trees on semi-dwarf stock are shipped at 2½-5'; dwarf stock, 2-5'.)

- **Bud 118 semi-dwarfing** rootstock produces a tree about **85–90%** of standard size or even larger. Sometimes Bud 118 trees are called semi-standards or even standards. Considered to be more precocious (fruits at a young age) than standards, and probably more productive. Very hardy, though not as hardy as Antonovka. Plant about 20–25' apart.

- **M111 semi-dwarfing** rootstock produces a tree about **65–80%** of standard size. Sometimes M111 trees are called semi-standards. M111 may not be more precocious than trees on standard. However it will likely be more productive. It has a relatively shallow spreading root system, does well in light soils, and is relatively drought tolerant. Prone to suckering; not as long-lived or hardy as Antonovka. You can plant them closer together than standards, about 15–20' apart.

- **Dwarfing** rootstock produces a small dwarf tree, **25–55%** of standard size. This makes it easy to spray, prune and pick. It requires less space in your yard and will fruit at an early age. Trees should be staked for support. These trees are hardy, though not as hardy as Antonovka, and they won't live as long. Our dwarf trees are grafted onto **Bud 9**, and occasionally **V1**, rootstock. You can plant trees 5–15' apart.



Apples *Malus* spp.

Rootstocks

We offer most apple varieties on standard-sized Antonovka rootstock. Where

A follows the item number in the apple section, the variety is on Antonovka (or occasionally another) standard rootstock.

B is on Bud 118 semi-dwarf rootstock,

C is on M111 semi-dwarf rootstock,

D is on dwarf (Bud 9 and occasionally V1) rootstock.

For more about rootstock, see pages 5 and 39.

ME Grown = grown in Maine at one of our small local nurseries.

Almata Late Summer. Beautiful Arcade x Fluke 38 crab. NE Hansen intro, SD Exp Stn, Brookings, SD, 1942. Watermelon-pink flesh is soft, juicy, brisk and tart. Perfect for bright and colorful pickles, jelly, sauce and cider. Relatively good fresh eating for a red-fleshed apple. Small 2" round fruit has smooth red skin awash with a greyish bloom. Charming pink blooms in spring and lush foliage tinged with crimson and bronze. Named for the city of Almaty in Kazakhstan, the birthplace of the *Malus* genus. Blooms early. Z3/4. **ME Grown.**

***101A** Almata, $38.50*

Arkansas Black Winter. Thought to be a seedling of Winesap, found in Benton County, AR, before 1870, and later widely grown throughout the state and in Missouri. Entirely deep purple with no stripes or ground color. Its conic shape and uniform color distinguishes its appearance from Black Oxford, which is considerably rounder and multi-hued. Crisp juicy firm yellowish flesh is quite tart right off the tree but mellows and sweetens in storage for better fresh eating. A nice cooking apple and said to be good in cider. Keeps all winter. A beloved apple in the South, and some growers have had success with it here in central Maine. Mid-to-late bloomer. Z5, maybe Z4. **ME Grown.**

***103A** Arkansas Black, $38.50*

Ashmead's Kernel Winter. Unknown parentage. Gloucester, England, about 1700. Possibly a seedling of Nonpareil. An after-dinner apple of unparalleled quality. Not for those who like mild sweet apples. Each bite is an intense aromatic sting of sharp and sweet, with hints of other indescribable but absolutely wonderful tastes and aftertastes. Beginning to show up here and there in commercial orchards. A good sharp addition to hard cider. Medium-small oblate and lopsided orange-gold-green russet fruits ripen in October. Store until the New Year to reach perfection. Keeps until they're all gone. Moderately vigorous tree may bear irregularly, but it's worth the wait. Somewhat scab resistant. Blooms midseason. Z4. **ME Grown.**

***104A** Ashmead's Kernel, $38.50*
***104C** Ashmead's Kernel on M111, $38.50*

Baldwin Winter. Wilmington, MA, about 1740. Also called **Butters Apple** or **Woodpecker**. Discovered on the Butters Farm by a surveyor planning the Middlesex Canal and noted as a favorite site for local woodpeckers. By 1850 Baldwin was the standard all-purpose home and commercial variety wherever it was grown. It remained dominant in Maine until the terrible winter of 1934 when tens of thousands of trees perished and McIntosh became king. Large round-conic thick-skinned fruit, almost entirely blushed, mottled and striped with red and deep carmine. Hard crisp juicy yellowish flesh makes excellent eating and cooking. Makes top-quality hard cider, blended or alone. Keeps till spring. Vigorous adaptable hugely productive long-lived healthy tree. The late renowned entomologist Ron Prokopy described Baldwin as "not practical commercially due to biennialism but the only apple that is both disease and insect resistant." Blooms early to midseason. Z4. **ME Grown.**

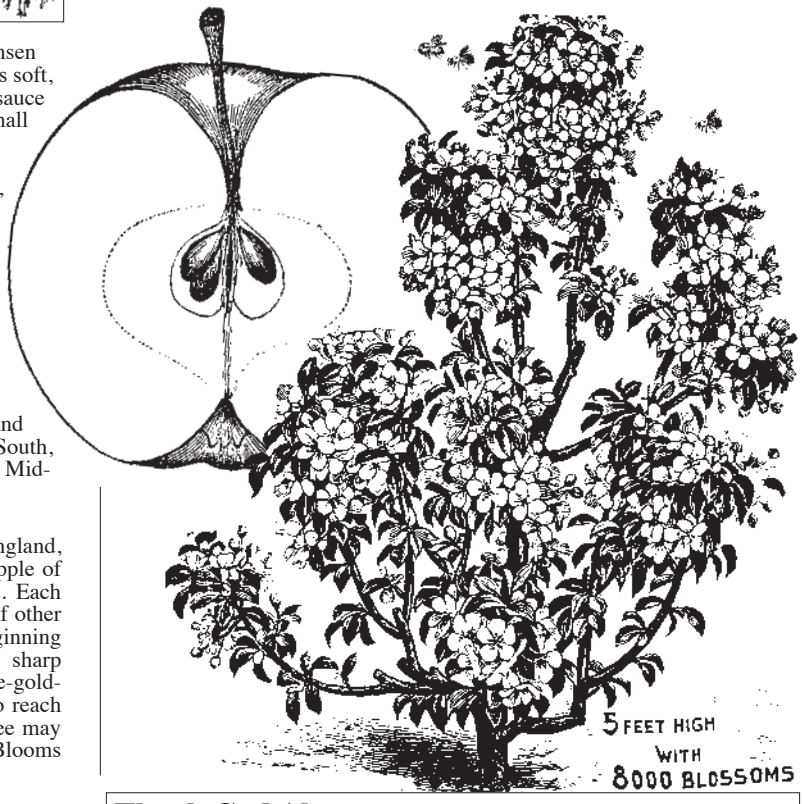
***106A** Baldwin, $38.50*
***106C** Baldwin on M111, $38.50*
***106D** Baldwin on Bud 9, $38.50*

Belle de Boskoop Winter. Bud mutation of Montfort. Boskoop, Holland, 1856. For generations every European backyard had a Boskoop. Even today, chefs in Europe know Boskoop, which cooks and bakes beautifully. Quickly reduces to a nice sauce: yellow, soft and medium tart. Big blocky somewhat ribbed fruit largely patched with green and russet, sometimes with a reddish blush. Grower David Maxwell of Nova Scotia calls it "an absolutely outstanding apple…seemingly resistant to everything. I didn't spray them at all and they are absolutely clean. The taste is equally outstanding." Rather tart right off the tree. In storage the acidity softens and it becomes quite edible fresh. Keeps well. Triploid: not a pollinator for other varieties. Blooms early. Z4. **ME Grown.**

***108A** Belle de Boskoop, $38.50*

Black Oxford Winter. Hunt Russet x Blue Pearmain. Paris, Oxford County, ME, about 1790. This outstanding apple, a favorite long ago around much of Maine, has made a huge comeback. Rivals Honeycrisp as our best-selling apple. Medium-sized round fruit, deep purple with a blackish bloom. From a distance you might think you'd discovered a huge plum tree. Excellent pies, superb late cider. Leave the skins on for a delightful pink sauce. Best fresh eating late December to March, but we've eaten them in July and they were still quite firm and tasty. They get sweeter and sweeter as the months go by. Good cooking until early summer. Some insect and disease resistance. Unusual light pink blooms early to midseason. Z4. **ME Grown.**

***112A** Black Oxford, $38.50*
***112C** Black Oxford on M111, $38.50*
***112D** Black Oxford on Bud 9, $38.50*



Thank God Almaty

The origins of our modern apples (*Malus domestica*) can be traced back to the mountains of Kazakhstan, which shares the longest continuous international border in the world with Russia. *Malus sieversii*, first identified by Russian agronomist Nikolai Vavilov as the progenitor of our cultivated apples, grew thickly and produced bountiful crops in Kazakh forests. The capital of Kazakhstan, Almaty, was formerly known as Alma-Ata, which translates as 'Father of all apples.'

Apples made their way from Kazakhstan as seeds, saplings and scions along the Silk Road, hybridizing with other *Malus* species along the way, and eventually reaching North America with European colonists. However, not all varieties that thrived in Europe were suited to the climate here, especially the cold winters in the Northeast.

In 1835, the Massachusetts Horticultural Society imported four pioneer varieties from Russia: Alexander, **Duchess**, **Red Astrachan** and **Tetofsky**. These hardy Russian varieties helped define apple culture in New England, particularly Maine. Before Duchess arrived, Zone 3 areas north of Bangor couldn't grow apples successfully. Now there are thousands of Duchess seedlings throughout Aroostook County.

We continue to reap the benefits of Russian apple genetics in our work at Fedco. The bulk of our standard apple trees, the mainstay of our catalog, are grafted onto the extremely hardy seedling rootstock Antonovka. Sometimes called 'the people's apple,' Antonovka fruit is popular in Russia for fresh eating, cooking and preserving in brines. It is celebrated in Russian literature and immortalized with a huge apple monument in the city of Kursk.

The acclaimed red-fleshed apple Niedzwetzkyana, traced back to Kyrgyzstan, is considered the ancestor of all our popular modern red- and pink-fleshed varieties, including **Redfield**, Winekist and Hidden Rose.

While we enjoy this rich inheritance of apple genetics in our orchards in Maine, our hearts are heavy with news of the atrocious war the Russian government has waged against Ukraine. We remember Vavilov, who created the largest collection of seeds in the world, with more than 250,000 samples from 64 countries. He was persecuted by Stalin and died in prison.

Blue Pearmain Fall-Winter. Thought to be from Middlesex County, MA, 1700s. Our favorite for baked apples—it was made to be stuffed. Moderately juicy flesh, firm, dense and slightly crisp, sweet with a bit of a tart background flavor. Incredibly beautiful medium to very large fruit is streaked and splashed with purplish red, mottled with russet and covered with a distinct dusty blue bloom. In a pie, it has just enough firmness and a good balance of sweet and tart with hints of pear. Tart coarse yellow sauce cooks up in a couple minutes. Tasty eaten out of hand. One of New England's most famous varieties. Mentioned by Henry David Thoreau as a favorite in his wonderful essay "Wild Apples." Grown throughout much of Maine for well over 200 years. Massive trees still found here and there. Keeps in the root cellar until midwinter. Blooms midseason. Z4. **ME Grown.**

***113A** Blue Pearmain, $38.50*

Burgundy Late Summer-Early Fall. NY 161 (Monroe) x NY 18491 (Macoun x Antonovka) NY Ag Exp Stn, 1974. Northern Aroostook County fruit growers Steve and Barb Miller introduced Burgundy to us as Barb's favorite cooking apple. Striking for its large (3") size and glossy purplish-red roundish fruit. Waves and rays of red in the firm juicy flesh. Strong distinctive aroma and a pleasantly unique flavor with a tart zingy aftertaste. One taste tester said, "Wow, hey, that's really different!" Steve said, "It reaches out and grabs you!" Makes an aromatic well-balanced early cider. Bears annually, and fruit hangs on for extended picking. Stores about two months. Recommended for all northern districts. Extremely hardy. Blooms late. Z3. **ME Grown.**

***114B** Burgundy on B118, $38.50*

Calville Blanc d'Hiver Winter. Unknown parentage. France or Germany, 16th c. Also called **White Winter Calville**. Famous as a dessert and cooking apple for more than 400 years. Steve Wood of Poverty Lane Orchards in Lebanon, NH, called it "the best culinary apple in the world." Large flattish pale green-yellow fruit with deep ribs and a dotted orange-red blush. Creamy-white aromatic fine-grained juicy flesh with a sweet distinctive effervescent flavor. Also recommended for vinegar, fresh cider and as a sharp (acid) component in hard cider. Should be stored a month to reach peak flavor. Will keep until midwinter. Very vigorous strongly upright vase-shaped tree with good branch angles. Not for the coldest areas though certainly hardy to Zone 4. Blooms midseason. Z4. **ME Grown.**

***115A** Calville Blanc d'Hiver, $38.50*
***115C** Calville Blanc d'Hiver on M111, $38.50*

Canadian Strawberry Fall. Unknown parentage. Solon, ME. Beautiful superb-tasting dessert apple. Surprisingly juicy distinctly tart full-flavored medium-to-large round-conic fruit. Rich buttery-yellow skin overspread with a veil of vibrant red-orange. Very good early season cider. Perfectly ripe at the end of September in central Maine where, in a good year, you won't find a better apple. At our Common Ground Fair taste tests, it usually vies for the crown with Cox's Orange Pippin. It was the overwhelming favorite in 2017 and runner-up in 2018 and 2019. In 1996 the late Roy Slamm convinced us to visit and subsequently propagate nursery stock from the three ancient "Strawberry" trees on his South Solon farm, thus saving the apple from almost certain extinction. Now spreading throughout Fedcoland. Fruit keeps about a month. Triploid: not suitable for pollinating other varieties. Blooms midseason. Not to be confused with Chenango Strawberry. Z4. **ME Grown.**

***117A** Canadian Strawberry, $38.50*

Cherryfield Fall-Winter. Westfield Seek-No-Further x unknown. Wyman B. Collins intro, Cherryfield, ME, about 1850. Also called **Collins**. Popularized more than 100 years ago by David Wass Campbell of Cherryfield and Welton Munson of UMaine. This all-purpose variety does everything well. We love it. Relatively tart with only a hint of sweetness. Makes a fairly quick tart sauce with a smooth texture—the skins mostly dissolve. Good in salads. Makes a highly flavored pie with great color and texture. Excellent sliced up on pizza. Irregular conic shape, washed and striped with pink. Ripens mid-October and keeps until the end of March. Rediscovered with the help of Margery Brown, Larry Brown, and Kathy Upton, all of Cherryfield, ME. Historically, may have been grown in Kennebec County under the name **Benton Red**, and in Illinois as **Salome**—Cherryfield is genetically identical to those two apples. Tree is vigorous, hardy, spreading and productive. Blooms early-midseason. Z4. **ME Grown.**

***119A** Cherryfield, $38.50*

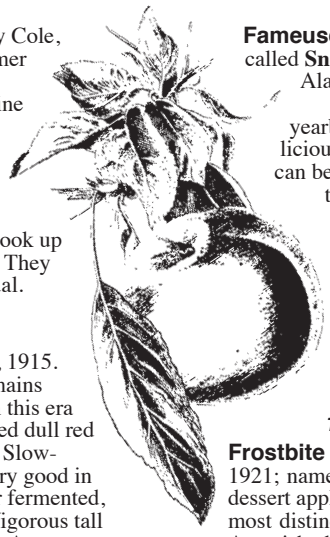
Chestnut Early Fall. MN 240 (Malinda x open-pollinated) U Minn, 1946. A dessert crab with truly excellent fruit for fresh eating, pickles and sauce. Round 2" yellow and bronze-red apple with some russeting. Firm crisp juicy fine-grained very sweet yellowish flesh. For a growing number of people in central Maine, late September is Chestnut apple time. A lot of people love this apple and it always scores high at our Common Ground Country Fair taste tests. Chestnut alone with no sugar makes a sweet and subtle sauce. Not a keeper, but can be stored for a month or two. Vigorous, somewhat weeping, medium-sized productive tree tends to bear annually. Disease resistant. Beautiful in bloom, mid-late season. Z3. **ME Grown.**

***120A** Chestnut, $38.50*

Red Delicious-er

Customers often ask us for suggestions for equivalents to their favorite "grocery store" apples. We can't offer any direct comparisons since we think the varieties we offer are far superior in flavor and character than those widely available in stores. But here are some suggestions for varieties that share qualities with some familiar commercial apples.

If you like...	you should try...
Fuji and Gala	Keepsake Tolman Sweet Williams Pride
Golden Delicious	Ginger Gold GoldRush Grimes Golden Hudson's Golden Gem
Granny Smith	Norton Greening Rhode Island Greening
Pink Lady	Richmond Pink Sweet Sixteen
Red Delicious	I-95 Tolman Sweet



Cole's Quince Summer. Introduced by Captain Henry Cole, Cornish, ME, about 1840. One of our favorite midsummer cooking apples. Large flattish-conical ribbed bright yellow fruit often with a brownish blush. In central Maine they ripen toward the end of August and stay good into mid-September. Unlike many other summer varieties, you can ripen them on the tree and let them drop—they won't rot if you blink a couple times. In the morning you can go out to the tree, pick up the four or five that dropped overnight and put them to use. They cook up quick into morning applesauce; delicious with oatmeal. They also make an excellent pie. Productive and mostly annual. Blooms early. Z4. **ME Grown.**

***122B** Cole's Quince on B118, $38.50*

Cortland Fall-Winter. Ben Davis x McIntosh. NY Stn, 1915. Although never as important as McIntosh, Cortland remains very popular throughout northern New England even in this era of many new introductions. Medium-large slightly ribbed dull red fruit with a purple blush. Excellent eating and cooking. Slow-oxidizing white fine-grained crisp tender juicy flesh: very good in salads. Produces a surprisingly delightful cider, fresh or fermented, in a mix or even on its own. Stores for a month or so. Vigorous tall upright spreading tree. Annual producer of heavy crops. A recent UMass study showed Cortland's resistance to apple maggot fly. Bears young; remove fruit for the first year or two to avoid stunting growth. Susceptible to scab. Blooms midseason. Z4. **ME Grown.**

***124A** Cortland, $38.50*
***124C** Cortland on M111, $38.50*
***124D** Cortland on Bud 9, $38.50*

Cox's Orange Pippin Fall. Possibly a seedling of Ribston Pippin. Near Slough, Bucks, England, around 1825. Deservedly one of the three or four most famous of all apples. Not only one of the best eating apples ever but also one of the most sought-after in modern apple breeding; parent or grandparent of many other varieties. Revered in the U.K. Medium-sized all-purpose aromatic fruit is red-orange to red with orange russet striping and wash. Perfectly balanced slightly subacid flavor and crisp juicy tender flesh improve with storage. Moderately vigorous moderately productive tree bears young and annually. Prefers cooler climates and higher pH (6.5–7.5+). The oldest Maine Cox's we know is about 50, thriving in Mercer. Scab resistant. Blooms midseason. Z4. **ME Grown.**

***125A** Cox's Orange Pippin, $38.50*
***125C** Cox's Orange Pippin on M111, $38.50*

Duchess of Oldenburg Late Summer. Russia, well before 1800. Also called **Duchess** or simply **Dutch**. Imported to North America in 1835 and named in honor of Catherine Pavlovna, Grand Duchess of Oldenburg, sister of Czar Alexander. Extremely hardy. Medium-sized round red-striped fruit is crisp, tender, juicy, subacid and aromatic. Highly recommended for all sorts of cooking, especially pies and sauce. If you live where it's cold and you're looking for one apple, this is it. Historically planted extensively wherever growers needed extreme hardiness. Still popular in Aroostook county and other northern districts. Small to medium-sized adaptable tree. Duchess seedlings come relatively true to type, are rugged and hardy, and make good rootstock for grafting. Scab resistant. Does not perform well in warmer districts. Blooms early-midseason. Z3. **ME Grown.** *Supply limited—order early!*

***128A** Duchess of Oldenburg, $38.50*

Esopus Spitzenburg Fall-Winter. Esopus, NY, before 1776. For more than 200 years "Spitz" has been a choice dessert and culinary variety, mentioned in nearly every list of best-flavored apples. Slightly subacid, crisp and juicy. Excellent acid source for sweet or fermented cider. Medium-large bright red round-conic fruit, covered with russet dots. Moderately vigorous tree with easily trained wide-angle branches. Forever famous as Thomas Jefferson's favorite apple though performs much better in New York and New England than Virginia. Moderately susceptible to scab though we have never sprayed ours with fungicides and the fruit has been great. Blooms mid-late season. Z4. **ME Grown.**

***130A** Esopus Spitzenburg, $38.50*
***130C** Esopus Spitzenburg on M111, $38.50*

Etter's Gold Fall. Wagener x Transcendent Crab. Albert Etter intro, Humboldt County, CA, 1944. Large round slightly ribbed fruit ripens to golden yellow. Crisp pale yellow flesh is sweet and juicy with a delightful aroma. Excellent fresh eating and can stay firm in storage for months. Originally named Allgold, this was the first apple selection of the unconventional self-taught plant breeder Albert Etter, who became best known in the apple world for his work with red-fleshed varieties. His breeding focused on apples suited to the northern California climate, but many of them—including this one and Wickson, a Fedco fave—perform well here in the Northeast. Blooms midseason. Z4. **ME Grown.**

***131C** Etter's Gold on M111, $38.50*

Fameuse Early Fall. Unknown parentage. Canada, before 1700. Also called **Snow**. Excellent fresh eating, great sauce and sharp cider apple. Alas, however, not a pie apple—turns to soup. Famous in Maine for well over 200 years. The 1865 Department of Agriculture yearbook sums it up: "Flesh remarkably white, tender, juicy…deliciously pleasant, with a slight perfume… No orchard in the north can be counted as complete without this variety… It is just so good that everybody likes to eat of it; and when cooked, it is white, puffy, and delicious." Medium-small roundish ruby-red thin-skinned fruit. Keeps until late December. As one of the few apples that comes relatively true-to-type from seed, occasional "variations on a Fameuse theme" can be found in old orchards. Recent discoveries suggest that it could be one of the oldest varieties in North America. (For more details, read John's recent book *Apples and the Art of Detection*.) Thought to be a parent of McIntosh. Productive long-lived tree. Susceptible to scab. Blooms mid-late. Z3. **ME Grown.**

***132A** Fameuse, $38.50*

Frostbite Fall-Winter. MN 447. Unknown parentage. First fruited in 1921; named and introduced by U Minn in 2008. A massively flavored dessert apple, among those we most look forward to each fall. Likely the most distinctive, complex and unusually flavored apple you'll ever try. Astonished eaters have described it as tasting like molasses, olives, sugar cane, cheap whiskey, yogurt, tobacco juice, and so on. We love it. The aromatic crisp crystalline apricot-orange flesh, with its occasional red staining, is so juicy it might run down your hand. The roundish fruit is medium-sized and entirely covered with dark bluish-purple stripes. Lost in the dustbin of weird apples for nearly 90 years before it was finally named and released. Extremely hardy, productive and reliable; at its best in colder districts. A parent of the popular Sweet Sixteen and Keepsake, and grandparent to Honeycrisp. Blooms midseason. Z3. **ME Grown.**

***133A** Frostbite, $38.50*
***133C** Frostbite on M111, $38.50*
***133D** Frostbite on dwarf rootstock, $38.50*

Gideon Late Summer. Unknown parentage. Peter Gideon intro, Excelsior, MN, 1888. Peter Gideon is best known as the originator of Wealthy, one of the most famous of all American apple varieties. Though much less well known, Gideon has its fair share of fans. The large conic beautiful bright yellow rose-blushed summer apple was first introduced to us many years ago by Tom Roberts, who was then sharing Peacemeal Farm in Dixmont, ME, with the ancient tree. Tom said the fruit "produced heavily on an almost completely ignored tree that was in decline through age, rotten wood, etc. It grows in the open on a sunny knoll in a field, and produced a majority of very good looking apples with no care whatsoever…a sweet juicy eating apple, and…wonderful for sauce." Daryl Hunter of New Brunswick wrote to us: "One of the heritage varieties that I'd never part with is Gideon, with its delicate skin and its very juicy, pear-flavored flesh…" Ripens a bit before Red Astrachan, toward the end of August in central Maine. Use them up quickly—they don't keep. Seldom any scab. Blooms early. Z3. **ME Grown.**

***134A** Gideon, $38.50*

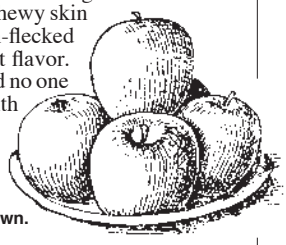
Ginger Gold Late Summer. Golden Delicious x unknown (possibly Newtown Pippin). Nelson County, VA, 1969. One of the first commercial varieties to ripen. Large conic-round classic Delicious shape with smooth waxy yellow skin and often a gentle red blush. Cream-colored juicy crisp flesh is a bit sharper than Golden Delicious but still quite sweet for an early apple. Great for salads because slices are slow to brown. One of the lone surviving trees on the edge of Clyde and Frances "Ginger" Harvey's Winesap orchard after Hurricane Camille flooded the area. The fruit turned out yellow—different from all the rest in the orchard—and was determined to be a Golden Delicious seedling. Blooms midseason. Z4. **ME Grown.**

***135A** Ginger Gold, $38.50*

Golden Russet Winter. Uncertain origin. Thought to be from England, New York or New England, before 1800. Round medium-sized russet fruit. Excellent eating; keeps all winter and well into spring. One of the best apples dried. The champagne of cider apples, ripening late in fall when the best sweet cider is ready to be made: sweet, balanced, thick and smooth. Also recommended as a sharp component for fermented cider. For more than 100 years, orchardists have been attempting to sort out the various russets. Several different apples have been called Golden Russet. Most resemble one another visually but differ in fruit qualities and tree habits. This is most likely the Golden Russet of western New York—we continue to work on unraveling this mystery by DNA testing various "Golden Russet" types. Vigorous diverging up-curving tree with long willowy branches. Scab resistant. Blooms early to midseason. Z4. **ME Grown.**

***137A** Golden Russet, $38.50*
***137C** Golden Russet on M111, $38.50*

GoldRush Winter. Co-op 38 {PRI 2750-6=[Co-op 17 (PRI 1689-100) x Golden Delicious]} PRI Co-op, 1994. The first of the disease-resistant varieties from the Purdue-Rutgers-Illinois apple breeding program to have superior storage qualities. Not only that, it's probably the best-tasting apple to come out of that program. Medium-to-large round-conic fruit has uniform deep greenish-yellow opaque chewy skin that turns golden in storage. Creamy-white green-flecked flesh is hard, very crisp, juicy and tart. Excellent flavor. Serve them for dessert in February and March and no one will be disappointed. Becoming very popular with cidermakers and commercial orchardists. Ripens late but successfully in central Maine. Keeps until May in the root cellar. Highly resistant to scab and powdery mildew. Moderate fireblight resistance. Blooms midseason to late. Z4. **ME Grown.**



***138A** GoldRush, $38.50*
***138D** GoldRush on Bud 9, $38.50*

Gray Pearmain Fall-Winter. Tolman Sweet x unknown. Probably Skowhegan, ME, before 1870. Absolutely delicious dessert apple with a distinct pear flavor and firm white juicy mildly tart flesh. Steadily gaining a devoted following. Medium-sized slightly ribbed and muffin-shaped fruit has a soft opaque greenish-yellow skin with a rosy pink blush, a russet veil, and a greyish bloom. Produces excellent juice. Pick late and eat them in the fall and all winter. At a late-fall apple tasting at the Maine Heritage Orchard, we had to stop at Gray Pearmain because every apple that followed paled in comparison. Not long ago the only trees we knew of were at The Apple Farm in Fairfield, across the line from Skowhegan. Through the generosity of Marilyn and Steve Meyerhans, the Gray Pearmain is now grown throughout Maine and beyond. Annually bearing easy-to-grow medium-sized spreading tree. Blooms midseason. Z4. **ME Grown.**

***140A** Gray Pearmain, $38.50*

Green Monster Winter. Tolman Sweet x open-pollinated. Ancient seedling tree estimated to be more than 100 years old found in an abandoned orchard in Waldo, ME. The amazing twisted and spiraling form of the trunk continues up into the canopy with a curvy and contorted branch habit. Round blocky medium-large green-skinned fruit, sometimes with a red blush and often a russet stem splash. Turns yellow in winter storage where it keeps well into spring. Intriguing unusual flavor, best for all cooking purposes. DNA profiling has recently revealed Tolman Sweet to be a parent. Part of the Maine Heritage Orchard collection and named by Red Sox fanatic John Bunker to honor the famous left-field wall in Boston's Fenway Park. Blooms midseason. Z4. **ME Grown.**

***141A** Green Monster, $38.50*

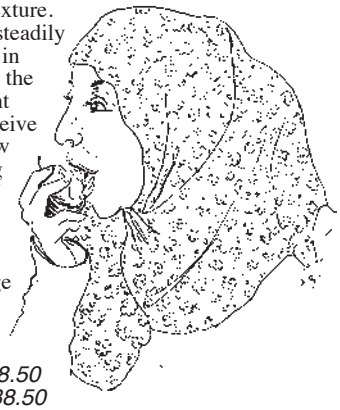
Grimes Golden Fall. Parentage unknown. West Virginia, 1804. Tart citrusy crisp dense firm fruit is excellent for both dessert and cooking: wonderful spicy fresh eating, pies, applesauce and cider. Medium-sized roundish fruit with opaque yellow skin scattered with grey russet dots and an occasional faint blush. All-around excellent variety grown in old Maine orchards for more than 100 years. This is a perfect apple for the New England homestead north to about Bangor. An added bonus is that the fruit doesn't ripen all at once. In central Maine they begin to drop mid-October. We collect the drops and use them right up. Around Halloween we pick the bulk of the crop to store in the root cellar until late winter. Productive precocious tree. Blooms mid-late season. Z4. **ME Grown.**

***142A** Grimes Golden, $38.50*
***142B** Grimes Golden on B118, $38.50*

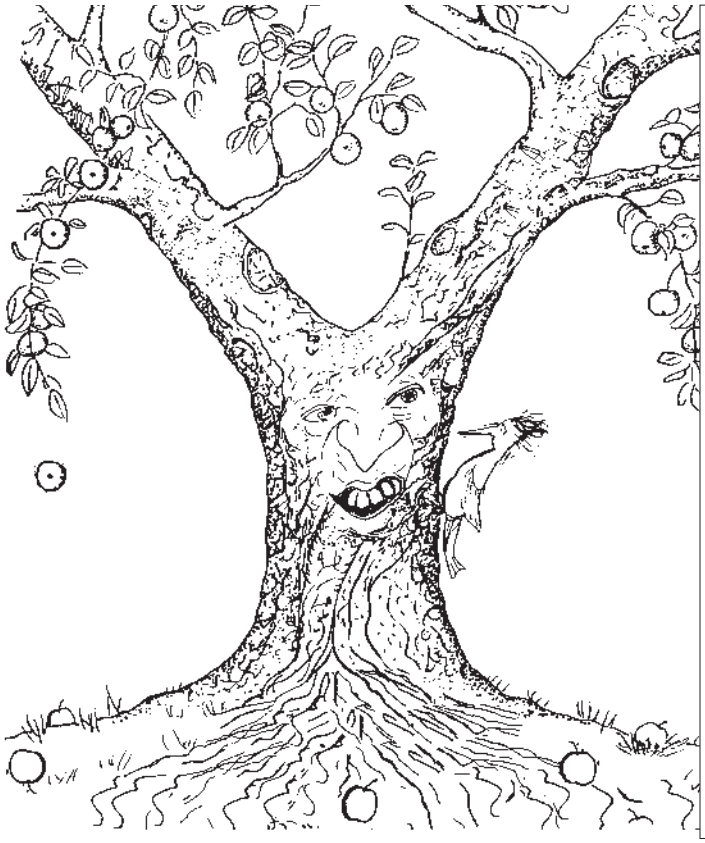
Holstein Fall. Cox's Orange Pippin x open-pollinated. Discovered in Euitin, Holstein, Germany, 1918, and introduced in 1950, to became one of the most popular apple varieties in Germany. Very attractive deep yellow fruit is blushed and streaked with reddish-orange, with a russeted stem cavity. Larger than its parent Cox, round ovate with flat shoulders and a funny slant to one side. Creamy yellow flesh is firm, juicy and aromatic with a balance of sweet and tart, and tropical hints. Great for dessert. Holds its shape in pies and presses into a pleasant orange-colored juice. Some disease resistance. Triploid: will not pollinate other varieties. Blooms midseason. Z4. **ME Grown.**

***143A** Holstein, $38.50*

Honeycrisp Winter. MN 1711 (Keepsake x open-pollinated) U Minn, 1991. Medium-large fruit, mottled and striped red over yellow. Sweet and juicy with hard snapping-crisp texture. Top quality in September. Improves steadily in storage. Unusual because it ripens in early fall yet keeps up to 7 months in the root cellar. First of the many excellent University of Minnesota intros to receive large-scale commercial attention, now has a huge following. Our bestselling apple. Probably best planted north of Massachusetts; less suited to warmer districts. Tends towards annual bearing. Relatively small low-vigor upright spreading tree. Above-average scab resistance. Blooms mid-late season. Z3. **ME Grown.**



***144A** Honeycrisp, $38.50*
***144C** Honeycrisp on M111, $38.50*
***144D** Honeycrisp on Bud 9, $38.50*



Apples Gone Wild!

Green Monster, I-95, Richmond Pink—you've probably never heard of these novel apples Fedco is introducing this year. But we think some of these local finds, especially suited to northeastern conditions and full of interesting characteristics, might be the heirloom apples of the future.

Apples are heterozygous meaning that, just like humans, each offspring (or seedling) retains traits from both parents and is a genetically unique individual. Even with the same two parents, each seedling apple can express a variety of different sizes, shapes, colors and flavors.

Modern apples, such as Honeycrisp and Cortland, are intentionally bred cultivars using known parents. Universities and experimental stations that conduct apple-breeding operations often select again and again genes from the same pool of parents with predictable characteristics and mild flavors. After decades of observation in controlled settings, the most uniform, disease- and pest-resistant selections are made for commercial introduction to the public.

Wild, or seedling, apples on the other hand offer a whole world of possibilities. The unusual and lively flavors of wild apples have become increasingly popular for use in fermented cider and fresh eating alike. Some of our favorite and most delicious heirloom apples like Northern Spy and Newtown Pippin were discovered as chance seedlings growing in the wild.

In addition to their often intense and unique flavors, wild apples are often hardier and better adapted to local conditions than cultivars. Wild apple trees face the challenges of drought, pests and disease without sprays, fertilizers, irrigation or other human interventions. When we collect scionwood from a beloved wild tree and graft onto new rootstock, it is with the hope that some of the wild tree's ruggedness will translate to the orchard setting.

With a changing climate and unpredictable growing seasons, many growers are putting their faith in local wild apples. Fortuitous trees that have sprouted from tiny errant seeds and gone on to flourish may prove to be the most resilient varieties with the best potential to survive and thrive.

Do you have a favorite seedling find? We'd love to hear about it!

Hudson's Golden Gem Fall. AD Hudson's Wholesale Nurseries, Tangent, OR, 1931. A wild seedling discovered in a fence row and introduced soon afterward. A truly fine dessert variety of unique appearance, exceptional flavor, and sweet juicy crisp smooth firm-but-melting yellow pear-like flesh. Highly recommended for those who love to eat their apples out of hand. Nearly everyone loves the flavor after a single bite. Magnificent medium-to-large distinctly conical and beautifully russeted long-stemmed fruit. Skin a soft yellow-tan overlaid with a fine weave of light and dark browns. A favorite in Oregon, more recently gaining notice practically everywhere apples are grown. Stores several months. Productive scab-resistant tree resists powdery mildew and fireblight. Blooms mid-late. Z4. **ME Grown.**

***145B** Hudson's Golden Gem on B118, $38.50*

Hurlbut Late Fall. Unknown parentage. General Leonard Hurlbut intro, Winchester, CT, before 1848. High-quality fall dessert variety. Beach calls it "moderately firm, rather fine, tender, crisp, very juicy, aromatic, mildly subacid, good to very good." We agree. Also makes a nice loose mild pink sauce. Small-to-medium roundish and slightly oblate fruit, mostly covered with red stripes and dotted blush. With its large russet stem splash, it looks like a small Wolf River. Quite likely one of the first varieties to be grown in central and southern Maine. Large vigorous trees. We've found two old ones in Waldo County. One introduced to John by local fruit explorer Bruce Brierley had collapsed to the ground decades ago and risen from the rooted branches to form a whole new tree. Keeps until early winter. Blooms early. Z4. **ME Grown.**

***146A** Hurlbut, $38.50*

I-95 Fall. Possible Red Delicious seedling. Waterville, ME, 1987. A tasty and rugged dessert apple found growing on a sucker from a neglected ornamental crab near an entrance ramp to Interstate 95 by fruit explorer Jack Kertesz. Propagated by fellow fruit enthusiast Tom Vigue before the highway crew cut down the original tree after it suffered severe storm damage. Medium-large round-conic slightly ribbed fruit is yellow with a red blush and darker red broken stripes and blotches. Reminiscent of Red Delicious in appearance only—I-95 offers a superior eating experience than its presumed parent. Crisp flesh has a balanced sweet-tart flavor for good fresh eating and great dried apples. Stores into the winter. Skin can be a bit tough and dry, but it's a fair trade-off for a high-quality apple that needs little care. Jack has always been "intrigued by wild fruit that isn't insect infested and can grow under unfavorable conditions," which is what drew him to this one. Tom reports that in his no-spray orchard "I-95 is not susceptible to the wide range of problems that plague its likely parent…. It produces a high percentage of dessert-quality fruit without intervention." Blooms midseason. Z4. **ME Grown.**

***147A** I-95, $38.50*

Kandil Sinap Fall-Winter. Discovered on the Sinap peninsula of the Black Sea in Turkey, 1700s. Distinct and unusually shaped apple looks like no other—elongated, tall and narrow fruit is almost cylindrical, with yellow porcelain-like skin and bright red blush. Uniform shape makes it easy to peel, and the crisp juicy flesh is sweet-tart with high flavor. The trees themselves have a natural pyramidal form and are a nice size for smaller gardens and yards. Fruit explorer and orchardist Matt Kaminsky (aka Gnarly Pippins) found these gems at Mountain Orchard in Granville, MA, and described them as "DIVINE." Scions were brought there by the orchard's Moldovan crew leader Stephen "Stopa" Kozylyak, who introduced the apple by the name Senapka. Popular in Russian markets in the 1900s and found in heirloom collections here and there in the U.S. Stores well. Blooms midseason. Z4. **ME Grown.** *Supply limited—order early!*

***148B** Kandil Sinap on B118, $38.50*

Keepsake Winter. MN 1593 (MN 447 [Frostbite] x Northern Spy) U Minn, 1979. One of the best of all winter storage varieties. Fine-textured flesh is hard, crisp, juicy and sweet. Excellent aromatic flavor, but wait about a month after picking before eating. Well named—keeps until July in the root cellar. Irregular conic medium-sized fruit is almost entirely overlaid with stripes and a wash of very deep red. Same parentage as Sweet Sixteen. Resembles Frostbite and Sweet Sixteen in appearance and taste, although the flavor is not quite as intense. Fruit size can be somewhat small. Don't be afraid to thin the crop each year 3 or 4 weeks after petal fall. You'll be happy you did. Moderately vigorous medium-sized tree reaches its prime in northern New England and the Upper Midwest. Somewhat resistant to scab. Blooms late. Z3. **ME Grown.**

***149C** Keepsake on M111, $38.50*

Kennebec Russet Fall. Kennebec County, ME, 1869. Also called **Kennebec**. Medium-sized russet with little acidity is used for cider and makes excellent sauce. Leave the sweet tasty pear-like skins on when you cook them! Round long-stemmed fruit with yellow skin, mostly covered with a netting of russet. The ancient tree is located on Waterville city property and was brought to our attention in 2012 by former Fedco staffer Carol Godfrey. The tree was spared from a new highway exit, and the city gave us permission to collect fruit and care for the tree. Ripens in early October and keeps only a few weeks. Blooms midseason. Z4. **ME Grown.**

***150A** Kennebec Russet, $38.50*

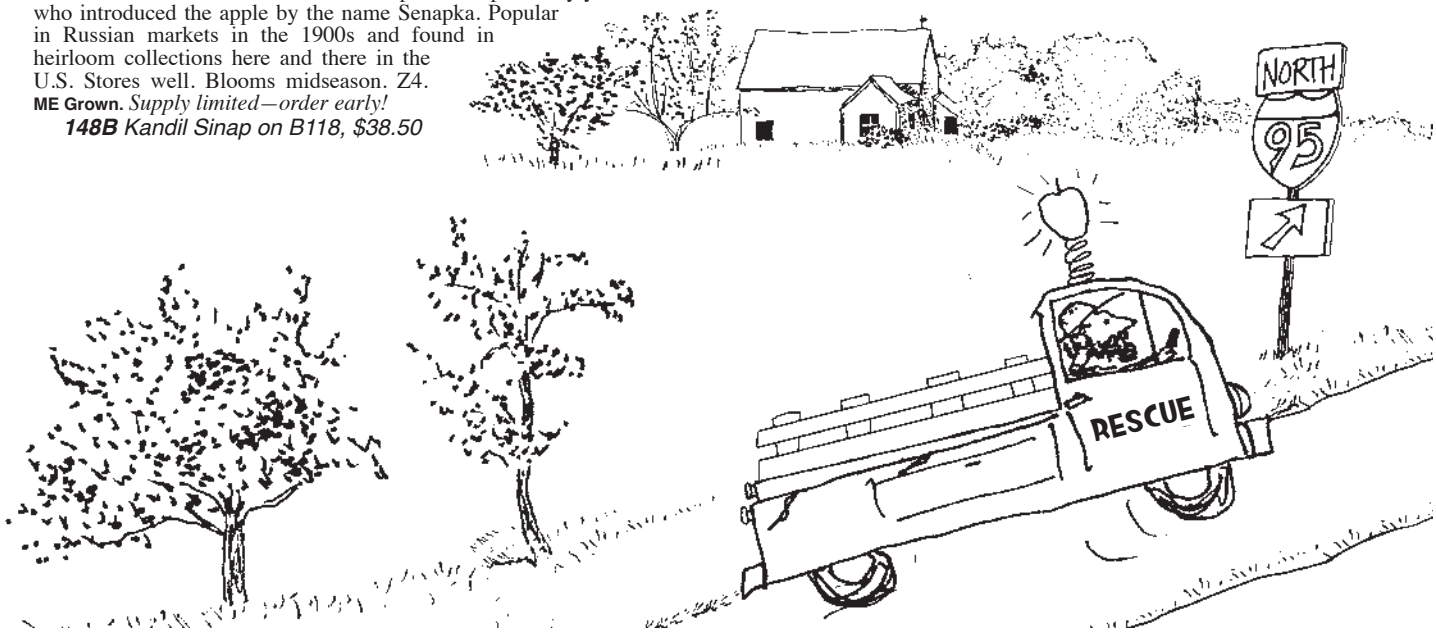
King David Fall-Winter. Chance seedling, thought to be Jonathan x Arkansas Black. Washington County, Arkansas, 1893. Stark Brothers Nursery intro, 1904. King David has a reputation as an intensely flavored apple. The initial bite is an explosion of flavors—pineapple, tangerine, lemon, sweet, sour, tart, sharp, aromatic and spicy. You may wince or moan or scream. You may see stars. Fine juicy flesh is firm yet tender and distinctly yellow. Known primarily as a dessert apple, but also good for pies and sauce. Medium-sized round-oblate-conic fruit is very dark solid maroon—nearly black. Occasionally found in old Maine orchards. The tree is vigorous, bearing young and regularly. Ripens in fall and keeps until the beginning of the year. Its one drawback is scab susceptibility. We grow it anyway. Blooms early midseason. Z4. **ME Grown.**

***151A** King David, $38.50*

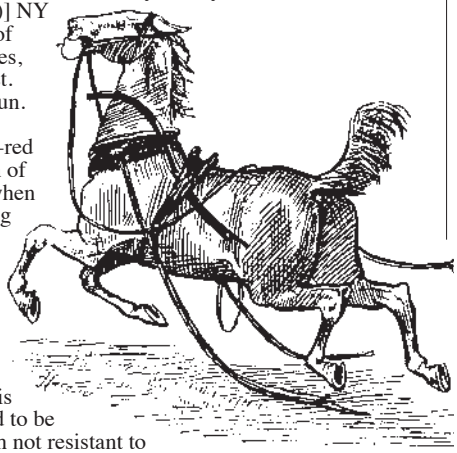
Koidu Reinette Late Summer-Early Fall. Tartu region, Estonia. Medium-sized flattened fruit is light yellow with a pink blush. Flesh is white, dense, juicy, tart and sweet. We like the fresh-eating flavor very much, and it also cooks up nicely in desserts. Ripens in September and keeps extremely well. Imported from Estonia in 1999 by Raivo Vihman with the help of Fedco's John Bunker. After a long quarantine period in a facility in Beltsville, MD, the USDA sent us scionwood. We had no idea what we'd get, and we've been pleased. Annual bearing tree of average vigor with a wide growth habit. Bloom time is mid to early. Probably Z4. **ME Grown.**

***152C** Koidu Reinette on M111, $38.50*

ME Grown = grown in Maine at one of our small local nurseries.



Liberty Late Summer-Fall. NY 55140-19 [Macoun x PRI 54-12 (PRI Co-op complex cross includes Rome Beauty, Jersey Black, McIntosh, Wealthy and *M. floribunda*)] NY Stn, 1978. One of the best of the disease-resistant varieties, particularly in the Northeast. Somewhat similar to Macoun. Handsome medium-sized round-conic bluish-pinkish-red apple with crisp white flesh of very good dessert quality when dead ripe. Excellent cooking and sweet cider, too. Recommended for single-variety sweet cider. Keeps till late fall. Begins fruit production at an early age, bearing consistent heavy annual crops. Naturally well-structured sturdy tree is easy to care for. Considered to be 100% scab-immune, though not resistant to insects or other lesser apple diseases. Don't let it crop too heavily at a young age. Blooms early to midseason. Z4. **ME Grown.**



153A *Liberty, $38.50*
153C *Liberty on M111, $38.50*
153D *Liberty on Bud 9, $38.50*

McIntosh Fall. Thought to be a seedling of Fameuse or perhaps St. Lawrence. Dundela, Ontario, 1811. First discovered by John McIntosh on his farm near the St. Lawrence River. Originally called Granny's Apple, then McIntosh Red, sometimes Gem, and finally McIntosh or simply Mac. Beginning in about 1930, the most important apple in the Northeast until Honeycrisp appeared. Although not planted in many other locations, it grows to perfection in our cool climate. There are many strains of McIntosh, some selected for traits other than flavor, and the variety has gotten a bad reputation. Despite the criticism, this is a delicious aromatic apple. Excellent for sauce but turns to soup in a pie. Annual cropper. Large beautifully rounded spreading strong tree is easy to manage. Beware, however: it's extremely susceptible to scab. It also doesn't keep well in ordinary storage. Blooms midseason. Z4. **ME Grown.**

156A *McIntosh, $38.50*
156D *McIntosh on Bud 9, $38.50*

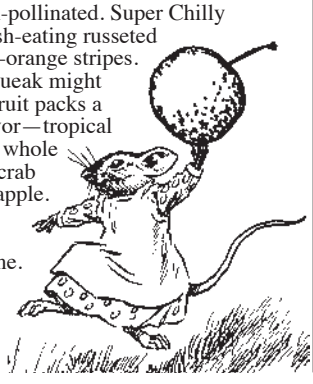
Northern Spy Winter. Chance seedling. East Bloomfield, NY, about 1800. One of the most famous of all heirloom apples. Very large delectable all-purpose fruit, covered with pink and light red stripes. Very juicy and tender. Even when the thin skin bruises, the fruit keeps extremely well. Cooks up quickly into a loose mild sauce. No need to remove the skins. Its reputation as a pie apple is well deserved: makes a very good single-variety pie! Recommended as a source of sharp juice in cider. Its one drawback is being slow to come into bearing, although for us it's been worth the wait. Medium-to-large moderately vigorous long-lived tree. Good scab resistance. Leafs out late and blooms late season. Z4. **ME Grown.**

159A *Northern Spy, $38.50*
159C *Northern Spy on M111, $38.50*

Norton Greening Late Fall. From the seed of an unknown variety, planted c. 1930 in Harpswell, ME, on the occasion of the birth of Helen Norton. We are very fond of these big all-purpose cooking apples. Large to very large fruit, roundish, ovate, sometimes a little oblate with a large deep abrupt basin. Green skin ripens to yellow by November with a faint blush and many small areolar green dots. In about 2010, Helen introduced the apple to Harpswell apple enthusiast Robert McIntyre, who shared it with John Bunker, who collected scionwood. The original tree has since died. Blooms midseason. Z4. **ME Grown.**

160A *Norton Greening, $38.50*

Pipsqueak Fall. MN 447 (Frostbite) x open-pollinated. Super Chilly Farm, Palermo, ME, 2009. Adorable wee fresh-eating russeted crab with a long stem and a few faint pinkish-orange stripes. Rough skin is almost kiwi-like. A large Pipsqueak might approach 2" in diameter, but the diminutive fruit packs a punch. Surprisingly juicy, full of unusual flavor—tropical like a piña colada. We eat them raw or baked whole rolled in cinnamon and sugar. Rivals dessert crab Trailman, a Fedco fave, as the perfect snack apple. Was a big hit with customers when served for dessert at The Lost Kitchen in Freedom, ME. Ripens around October 1 in central Maine. Blooms midseason. Z4. **ME Grown.**



163B *Pipsqueak on B118, $38.50*

Pomme d'Or Late Summer. Unknown parentage, probably originating in Québec before 1870. Uniquely shaped, beautiful and rare, this extremely hardy large light-yellow summer cooking and dessert apple is reminiscent of Yellow Transparent. The fruit is oblong or even rectangular in shape. Occasionally the large hollow core will be partially filled with a sweet nectar you can sip after halving the fruit. As the fruit ripens, the faint yellow deepens to a rich gold, hence the name Pomme d'Or (Golden Apple). Eat it fresh, and use it in summer pies. Makes a light golden-yellow mild-flavored chunky sauce. Fruit explorer Gloria Seigars introduced it to John near St. Agatha, ME, in the fall of 1998. We are grateful she invited us to cut scionwood at her family orchard overlooking Long Lake. She believes her family brought the apple to Maine from Canada in 1870. Hardy enough for all northern districts. Long mid-late bloom season. Z3. **ME Grown.**

164A *Pomme d'Or, $38.50*

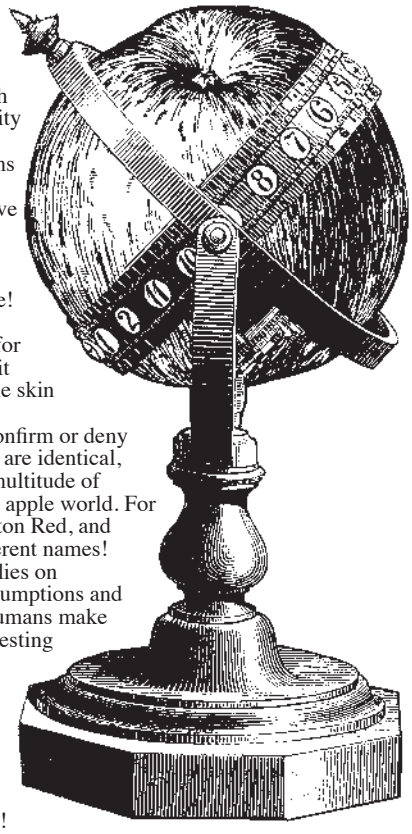
Pristine Summer. Co-op 32 (Co-op 10 x Camuzat). PRI Co-op, 1994. Disease-resistant medium-large roundish-oblate clear-yellow fruit is mildly subacid, spicy and rich flavored. Sometimes with an orange blush. Resembles Yellow Transparent and Lodi but with better dessert quality for good tart fresh eating. Tasty in summer salads and also a fine cooking apple. A good choice for backyard growers because the fruit doesn't ripen all at once. You can pick them over a week or more. Keeps more than a month in refrigeration. The eleventh variety released by the well-known PRI disease-resistant apple breeding cooperative program at Perdue, Rutgers and Illinois universities. The original seedling is a complex cross planted in 1975 at the Purdue Horticultural Research Farm in West Lafayette, IN. Has since been widely tested around the U.S. and across the world. Recommended for commercial orchards and hobbyists alike. Resistant to most apple diseases and scab immune; the name refers to its unblemished skin. Blooms mid-late season. Zone 4. **ME Grown.**

165C *Pristine on M111, $38.50*

Science! Revealing the origins of old varieties

Many identifications of rare or lost apple varieties have come down to educated guesses: the shape and color may fit, the location may match historical records, yet we can't be certain. With the help of Cameron Peace, a geneticist from the Washington State University's (WSU) Department of Horticulture, we can now solve some of our greatest apple mysteries through state-of-the-art SNP (single nucleotide polymorphism) array DNA testing. In partnership with the Maine Heritage Orchard, we have been submitting leaf samples of many apple varieties to the WSU lab and are receiving exciting data about parentages and potential relationships among varieties within the expanding database. Slowly, the pedigrees of rare varieties are being revealed.

The parents of modern apples are no mystery. We know Redfield combined the deep red flesh of the apple Niedzwetzkyana with the large size and palatability of Wolf River. But what about our favorite heirlooms that were found as chance seedlings? DNA results have proven that our beloved Black Oxford was a cross between Blue Pearmain and Hunt Russet. Of course! From Hunt Russet, Black Oxford received its genes for long storage ability, while it inherited its stunning purple skin from Blue Pearmain.



DNA results can also confirm or deny that two similar specimens are identical, which is useful given the multitude of confusing synonyms in the apple world. For example: Cherryfield, Benton Red, and Salome—same apple, different names!

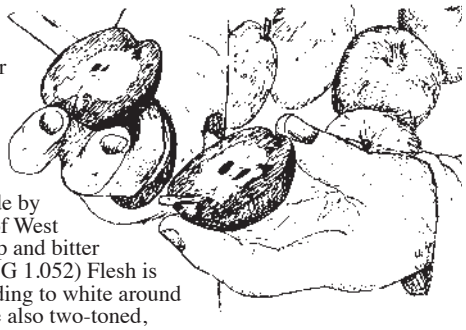
That said, the testing relies on previously built human assumptions and collection maintenance. Humans make mistakes, so in theory the testing could have flaws.

We're updating the descriptions of the apples in this catalog as we learn news of their lineages. More of our favorite varieties are lined up for DNA testing, so stay tuned!

Red Astrachan Summer. Thought to be from Astrakhan on the Black Sea, prior to 1800. The standard Maine summer cooking apple for generations. Still found occasionally in old Maine dooryards. Juicy rich subacid white flesh frequently tinged with red makes a highly colored sauce. Especially loved for its distinctive flavor in pies. Medium-sized somewhat oblate fruit, splashed or sometimes solidly covered with dark red. An obvious russet patch surrounds the stem. Looks like a junior version of a Wolf River. Fruit ripens over a period of several weeks in midsummer, making it perfect for the home orchard and lousy for the commercial folks who want them all at once. After finding its way to Sweden, the apple traveled to England and finally to Massachusetts in 1835. From there it quickly spread throughout New England and beyond. Keeps for a few weeks with refrigeration. Very hardy. Blooms early. Z3. **ME Grown.**

***166A** Red Astrachan, $38.50*

Redfield Fall. Wolf River x Niedzwetzkyana. NY Stn, 1938. One of the best and largest of the red-fleshed apples. Although usually considered too tart for eating out of hand, the medium-large fruit with opaque solid rusty-red skin is absolutely great in pies, makes wonderful jelly and turns sauce and cider red. We love this apple. Gained fame in the hard-cider world thanks to the wonderful single-variety Redfield cider and Redfield blends made by the late Terry Maloney of West County Cider. Very sharp and bitter in cidermakers' lingo. (SG 1.052) Flesh is two-toned: deep pink fading to white around the core. The flowers are also two-toned, deep pink, tipped with small white lightning bolts. And the bronze-red foliage adds further interest all season. Bears young, annually, and shows some insect resistance in our trials. One of the very first to bloom each year. Z3. **ME Grown.**



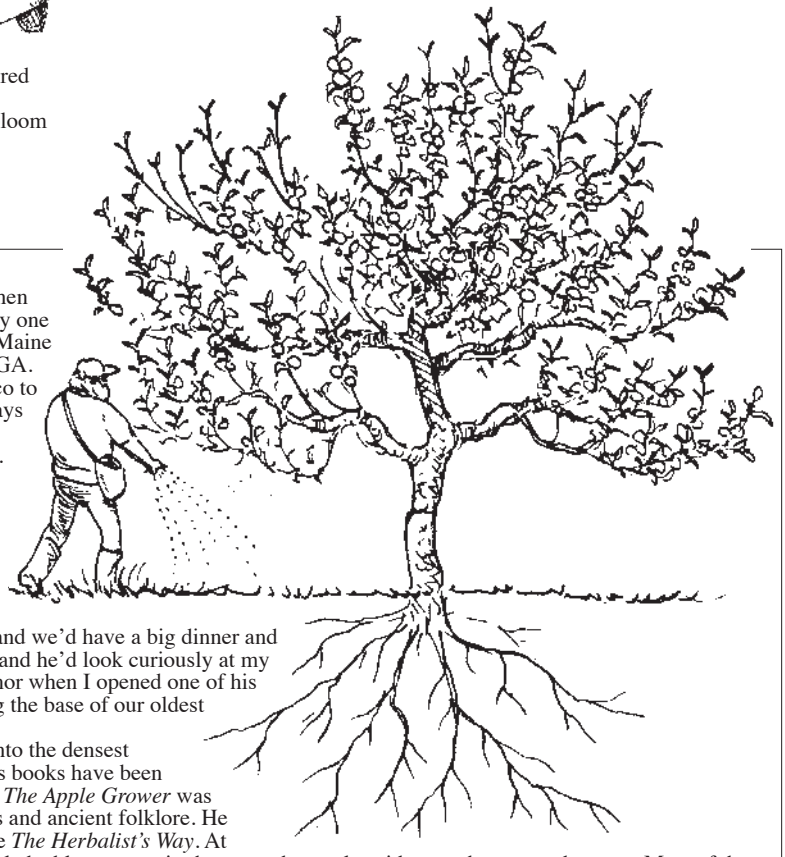
***167A** Redfield, $38.50*
***167C** Redfield on M111, $38.50*

Rhode Island Greening Fall-Winter. Green's Inn, near Newport, RI, about 1650. Also known as **Greening**. The classic New England cooking apple. Large roundish-conic-oblate green fruit often has a tannish blush. Light yellow-green flesh is crisp and tart. Great for pies, also excellent for fresh eating. The most well-known of the various Greenings, and the number one green apple for a few centuries before Granny Smith arrived from Down Under and stole the show. With its high-quality fruit and adaptability to a range of soil conditions, Rhode Island Greening established itself as one of the most important commercial varieties throughout the Northeast in the 19th c. Keeps well into winter. About as hardy as Baldwin. Old trees can still be found in central Maine. Not recommended for northernmost districts, but cooks everywhere else will love it. Blooms late season. Z4. **ME Grown.**

***168A** Rhode Island Greening, $38.50*

Ribston Pippin Fall-Winter. Ribston Hall, Yorkshire, England, about 1688. Highly recommended, richly flavored, multi-colored, partly russeted late fall dessert apple. In the words of Robert Hogg, the preeminent English pomologist of the 19th century, "There is no apple which has ever been introduced to this country, or indigenous to it, which is more generally cultivated, more familiarly known, or held in higher popular estimation than Ribston Pippin." One should never assume an English apple will do as well in the U.S., but Ribston is an exception. It was brought to Kennebec County about the time of the Revolution and then became one of the state's most important apples. *Maine Farmer* reported in 1854 that Ribston "does better in Maine than anywhere in the U.S." Also well known as the parent of the even more famous Cox's Orange Pippin, as well as of Starkey, one of John's all-time favorite Maine apples. Blooms midseason. Z4. **ME Grown.**

***169C** Ribston Pippin on M111, $38.50*



A Tribute to Michael Phillips: 1957-2022

The orchard community suffered a terrible loss this past winter when orchardist, author and educator Michael Phillips died unexpectedly one night out in his northern New Hampshire orchard. Many of us in Maine knew Michael from his regular visits to teach workshops at MOFGA. His trips to Maine almost always included a leisurely visit to Fedco to pick up supplies and chat with whomever was around. It was always a pleasure to see him. Others who never had the good fortune to meet him in person knew him through his ground-breaking books. His Holistic Orchard Network (groworganicapples.com) connects growers throughout North America and beyond. His efforts to observe, understand and clearly explain the botanic world were remarkable. Without him organic orcharding as we know it would not exist.

I feel fortunate to have spent a great deal of time with Michael over the years. He often stayed with us when he came to Maine to give workshops. He'd typically arrive the night before, and we'd have a big dinner and invite apple geeks and Fedco staff. He and I would tour the farm, and he'd look curiously at my latest odd orchard practices. He observed every detail. What a honor when I opened one of his books for the first time and found a photo of daffodils surrounding the base of our oldest Black Oxford tree.

Michael had the willingness, patience and ability to dig deep into the densest research, to listen to everyone and to entertain all possibilities. His books have been the go-to guide for organic holistic orcharding since his first book *The Apple Grower* was published nearly 20 years ago. He steeped himself in biodynamics and ancient folklore. He worked closely with his herbalist wife Nancy with whom he wrote *The Herbalist's Way*. At apple gatherings where Michael was always one of the most knowledgable growers in the room, he rarely said more than a word or two. Most of the time he asked questions, listened quietly and took piles of notes. He wanted to hear what everyone had to say.

Michael's curiosity went far beyond the mechanics of growing fruit. He also immersed himself in the mystical world of the orchard, what I think of as the partnership between people and plants. One November long ago we attended a workshop led by Michael on Wassail, the ancient midwinter apple celebration. There was big burly Michael in his signature work vest skipping around an old McIntosh tree, sprinkling cider and singing a jolly wassailing song. We were hooked. We hosted a Wassail the following January at our farm on one of the coldest nights of the winter. The cider froze before we could pour it around the apple tree, but the trees seemed happy to see us out there at –10°. Before long Wassail became one of the highlights of our own agricultural year. We read poems and sing songs around a bonfire, perform zany skits up in the trees, drink cider, share food, and bask in the company of friends and neighbors.

Michael came along at a perfect moment when the thirst for a different approach to orcharding was great. His contributions will be felt for as long as there are people like us who can't stay out of an apple tree. Wherever people gather to plant trees or harvest fruit or celebrate Wassail, Michael will be there. They might know his name or not. Still, he will be there.

Thank you, Michael, for who you were and what you generously gave to us all. We miss you.

– John Bunker

Richmond Pink Fall. An obvious stand-out among scattered seedling trees discovered growing in Richmond, ME, by Tom Vigue back in 1993. Tom collected scions and in Sidney grafted what he would come to call Richmond Pink. He's been happy with this vigorous annual producer. Large very light yellowish-white fruit with crimson splashes and stripes. Subacid citrusy flesh is often tinged with pink. One of the many apples from Maine exhibited at the first annual Wild and Seedling Pomological Exhibition in Ashfield, MA, in the fall of 2019. Blooms midseason. Z4. **ME Grown.**

***170C** Richmond Pink on M111, $38.50*

Roxbury Russet Winter. Roxbury, MA, early 1600s. Said to be the first named American apple variety. One of the best late-winter dessert apples—it would be hard to live without a stash of them in our root cellar. Our favorite for winter sauce. Hard medium-large patchy green and russeted fruit not uniform in size, shape or color. Rich, spicy and juicy. Exceptional sauce. Dried, it's nice and tart with a pleasant first sensation and a lingering good aftertaste. The aromatic juice has potential for cider, fresh or fermented. Medium-to-large vigorous spreading tree. One of the most popular commercial apples of the 19th century, largely because it can store until summer. Scab resistant. Blooms midseason. Z4. **ME Grown.**

***171A** Roxbury Russet, $38.50*
***171C** Roxbury Russet on M111, $38.50*

Spigold Fall-Winter. NYE6 (Red Spy x Golden Delicious). NY Stn, 1962. Outstanding modern dessert variety, also excellent for cooking. Very large (even huge) juicy sweet richly flavored roundish ribbed fruit, mostly covered with faint red stripes over a light green ground color. Pure white crisp fine-textured flesh. Originally released as a Northern Spy replacement for the processing industry at a time when the demand for Northern Spy was high but the variety was no longer being planted. Spigold never really caught on with commercial growers, but it's widely considered to be an all-purpose backyard apple for the connoisseur. Ripens a week before Northern Spy and keeps until midwinter. Strong upright grower requires training early on to develop good limb structure. Triploid: will not pollinate other varieties. Blooms late. Z4. **ME Grown.**

***174A** Spigold, $38.50*

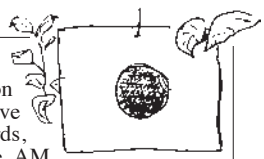
St. Edmund's Russet Early Fall. First discovered in the orchard of Richard Harvey, Bury St. Edmunds, England, about 1870. Received a first-class certificate from the Royal Horticultural Society in 1875. Also called **St. Edmunds**, **St. Edmunds Pippin** and **Early Golden Russet**. High-quality and highly flavored late-September dessert fruit. Medium-sized roundish-conic fruit is similar in appearance to Golden Russet but with a much lighter uniform yellowish-tan coloring. The crisp fine-textured creamy-white to yellowish juicy aromatic flesh has a sweet subacid pear-like flavor. Always one of the most popular apples at our Common Ground Fair taste tests. One of the many great apples introduced to us by the late orchardist Don Johnson. The earliest russet to ripen in central Maine every year. Not a keeper. Blooms early midseason. Z4. **ME Grown.**

***175B** St. Edmund's Russet on B118, $38.50*

Sweet Sixteen Fall. MN 1630 (MN447 [Frostbite] x Northern Spy) U Minn, 1979. The first bite into a Sweet Sixteen is always a surprise. Fine-textured crisp flesh contains an astounding unusually complex combination of sweet, nutty and spicy flavors with slight anise essence, sometimes described as cherry, vanilla or even bourbon. We always love Sweet Sixteen season. Truly excellent fresh eating, although it is too sweet for some palates. Also good for pies and sauce. Round-conic bronze-red medium-sized fruit, striped and washed with rose-red. Annual bearer if thinned. Very hardy moderate-sized vigorous vase-shaped tree grows upright with willowy branches that get loaded with fruit but do not break. Best grown in northern districts. Keeps till midwinter. Some resistance to scab. Blooms mid to late season. Z3. **ME Grown.**

***177B** Sweet Sixteen on B118, $38.50*

Apple Maggot and plywood



The late orchardist and rare apple collector Don Johnson made nifty apple maggot traps. We've gotten into doing so ourselves. In small orchards, the traps alone may be enough to reduce the AM pressure to a tolerable level. Here's how: Cut up plywood (3/8" or 1/2") into 8x11" rectangles. Drill a hole along the top edge. Paint the plywood bright yellow with a 2–3" red spot (the apple) in the center. Coat with Stiky Stuff (an adhesive found at fedcoseeds.com/ogs) and hang three in each tree in mid-June, positioning the traps at about chest height. Trim away any foliage that might stick to the trap. Check for trapped AM flies. Now and then, when they get too gnarly, scrape the traps and add new Stiky Stuff. Remove traps around Labor Day.

Tetofsky Summer. Unknown parentage. One of the four super-hardy pioneer Russian varieties imported to the U.S. by the Massachusetts Horticultural Society in 1835 along with Duchess, Alexander and Red Astrachan. Used as a parent in breeding projects for new cold-hardy varieties, such as its offspring Mantet. Medium-sized round-oblate fruit with smooth waxy pale yellow skin, prominent red stripes and abundant dots. Often covered with a whitish bloom. Tender white flesh is coarse and juicy. Mostly used for summer cooking. Tetofsky is very acidic until fully ripe in late July or early August in central Maine, around the same time as another popular Russian summer apple, Yellow Transparent. Early bloomer. Z3, possibly Z2. **ME Grown.**

***178A** Tetofsky, $38.50*

Tolman Sweet Fall-Early Winter. Sweet Greening x Old Russet. Dorchester, MA, before 1700. Sometimes called **Talman Sweet**, **Taulman Sweet**, **Tomey Sweet** and many other variations. One of the first American apples and one of the few to remain popular for centuries. Truly an all-purpose fruit, used for cider, cooking, dessert and even animal fodder. Once popular for pickling, boiling and baking. Especially prized in Maine for apple cake. Unforgettably peculiar sweet strange flavor. Very low acidity. Moderately juicy medium-sized greenish fruit, sometimes with a bit of a blush and often marked by a distinct suture line running from stem to stern. Long-lived heavy-bearing vigorous tree. Still often found throughout central and southern Maine. Blooms midseason. Z4. **ME Grown.**

***179A** Tolman Sweet, $38.50*

Trailman Summer. Trail x Osman. Beaverlodge Research Farm, Alberta, Canada, 1973. In spite of its small size, this is an exceptionally delicious fruit for fresh eating. Spicy sweet crisp crunchy golden-yellow flesh. Visitors who try it in our orchard usually fall in love with it instantly. Some have called it the best summer apple they've ever tasted—some even call it their favorite apple of any season! Ripens around Aug. 20 in central Maine. Translucent yellow skin has a porcelain finish, white bloom and sometimes a brownish-red blush. Fruit the size and shape of an egg. Hangs on the tree for 2 weeks without softening. Precocious, annually productive, moderately vigorous, somewhat drooping and spreading tree. Exceedingly hardy. Might be tasteless south of Zone 6. One of the first to bloom each year. Zone 3 or even 2. **ME Grown.**

***180B** Trailman on B118, $38.50*

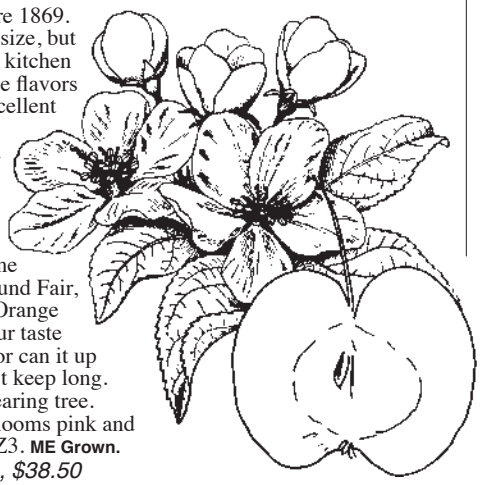
No Direction Home

Following the story of the apple requires paying some mind to the history of the horse. We used to think the horse was not native to North America. Turns out, it is. When the Beringian land bridge was intact, horses spread out into present-day Asia, roaming farther wherever glaciers weren't in the way. Advancing and retreating ice sheets were the only fences. These fast-moving animals ate and dispersed apple seeds across long ranges of the geographical area considered to be the birthplace of the apple. What became known as the Silk Road began as an ancient animal migration corridor. It's fitting that in China this is called the Horse Road. Scientists hypothesize that patches of apples in the Caucasus Mountain range, the Crimean Peninsula, as well as areas of Afghanistan, Iran, Turkey and Russia got there by traveling in the guts of equids. Eventually, we put halters on these animals and they carried the apples in saddle-packs along the Silk Road for the humans trading goods across this vast expanse of land.

Wealthy Fall. Thought to be a seedling of cherry crab, but recent DNA analysis proves old history wrong: one parent is Duchess. Excelsior, MN, 1860. A Maine native of sorts, the seed having come from Bangor. One of the most famous of all hardy varieties, with its perfect texture and complex flavors, all-purpose Wealthy is considered to be one of the best apples. We agree. Round-oblate medium-sized fruit is pale greenish-yellow streaked with carmine. Tender very juicy sweet subacid flesh is white, often stained red. About as firm as McIntosh. Good eating and even better cooking. Wonderful pies! Good acid source for fermented cider. Ripens over a long period. Productive moderately vigorous long-lived naturally small-statured tree. Blooms early. Z3. **ME Grown.**

***181B** Wealthy on B118, $38.50*

Whitney Crab Late Summer. Franklin Grove, IL, before 1869. Considered a crab for its size, but definitely suitable for the kitchen and the lunch box. Intense flavors and incredibly sweet. Excellent pickling and wonderful fresh eating. Small round pinkish-striped fruit ripens in mid-September in central Maine. Looks similar to Chestnut, but tends to be more pink. One year at the Common Ground Fair, Whitney beat out Cox's Orange Pippin and Chestnut in our taste test—quite a feat! Eat it or can it up quickly because it doesn't keep long. Hardy vigorous heavy-bearing tree. Highly recommended. Blooms pink and white, early-midseason. Z3. **ME Grown.**



***182A** Whitney Crab, $38.50*

Wickson Fall. Esopus Spitzenburg x Newtown Pippin. Albert Etter intro, Humboldt County, CA, 1944. One of the most intensely flavorful apples we list. Small roundish bright red fruit is crisp, juicy, tart, tangy and spicy. Highly recommended for dessert. Extremely high in both sugar and acid. Sugar level of the juice is around 25%. Becoming one of the most sought-after American cider apples. Makes perfect single-variety cider—the best there is! In September the tree looks like a mass of cherries. Bred and introduced by the generally unknown Albert Etter, one of America's most innovative and important fruit breeders of the 20th century. Keeps until January. Wickson bears young, heavily and mostly annually. Blooms midseason. Z4. **ME Grown.**

***183A** Wickson, $38.50*
***183C** Wickson on M111, $38.50*

Williams Pride Summer. Co-op 23 [PRI 2845-1=(PRI 1018-101 x NJ50)] PRI Co-op, 1988. Probably the most popular summer apple among PRI's disease-resistant introductions. It's actually crisp, which is rare for a summer apple. Deep purple roundish-conic irregularly shaped fruit highlighted with areas of glowing rosy red and covered with a thin bloom. Light cream-colored flesh with red staining just under the skin. Firm, crisp and very juicy. Has a nice acidic blend of tart and sweet, reminiscent of Fameuse. Long ripening period means you don't have to eat them all at once. Vigorous annually bearing tree with some biennial tendency. Well shaped with strong right-angled branches that do not require careful training. Highly resistant to fireblight, cedar apple rust and sooty blotch; resistant to powdery mildew. Scab immune. Blooms early to midseason. Z4. **ME Grown.**

***184A** Williams Pride, $38.50*
***184C** Williams Pride on M111, $38.50*

Windham Russet Late Fall. Unknown parentage. Massachusetts, before 1870. Excellent dessert apple for the connoisseur. The darkish brown russet skin has a distinctly bumpy rough texture, unlike any other russet we know. The stem area is sometimes lipped like Pewaukee. We brought it to the Franklin County CiderDays apple tasting in November 2013 and it won, beating out some really great apples. First brought to the attention of the Maine Pomological Society by DJ Briggs in 1885. ZA Gilbert, longtime president of the society, struggled to identify the apple—his best guess was Windham Russet. He wrote, "So choice a russet is worthy of attention." We agree. Said to be from Massachusetts although there is no Windham down there. Maybe it's the Windham in Connecticut, New Hampshire, Vermont or Maine. This apple is making a big comeback. Blooms midseason. Z4. **ME Grown.**

***185A** Windham Russet, $38.50*

Yellow Bellflower Winter. Parentage unknown. Crosswicks, NJ, about 1742. Large conical pure-yellow fruit does everything well, including keeping all winter in the root cellar. Firm, crisp, moderately fine-grained, rather tender, juicy, aromatic, very good for culinary use and good for fresh eating, especially after it's mellowed for a month or two. Excellent for pies. Applesauce cooks quickly, somewhat coarse, bright glistening yellow with great flavor and chewy skins. We also love it dried: it's balanced and flavorful. One of the first named American varieties and one of the first apples to be grafted and planted in Maine. Incredibly long-lived. When you find a truly ancient apple tree in Maine, there's a pretty good chance it's a Yellow Bellflower. Blooms early-midseason. Z4. **ME Grown.**

***188A** Yellow Bellflower, $38.50*

Zabergau Reinette Winter. Württemberg, Germany, 1885. One of the most famous of all European heirlooms. Excellent fresh eating and good for cooking. Very large, even huge, round-conic, sometimes lopsided, greenish-bronze russeted fruit with a red-orange blush. Similar to Pomme Grise in color, but much larger. Quite visible light whitish russet spots cover the entire fruit. A very attractive apple. Firm white fine-grained flesh with a rich nutty intense sweet-sharp flavor—fruity with hints of raspberry. Keeps well until midwinter and sweetens up in storage. Productive upright vigorous tree. Triploid: will not pollinate other varieties. Blooms midseason. Z4. **ME Grown.**

***189A** Zabergau Reinette, $38.50*

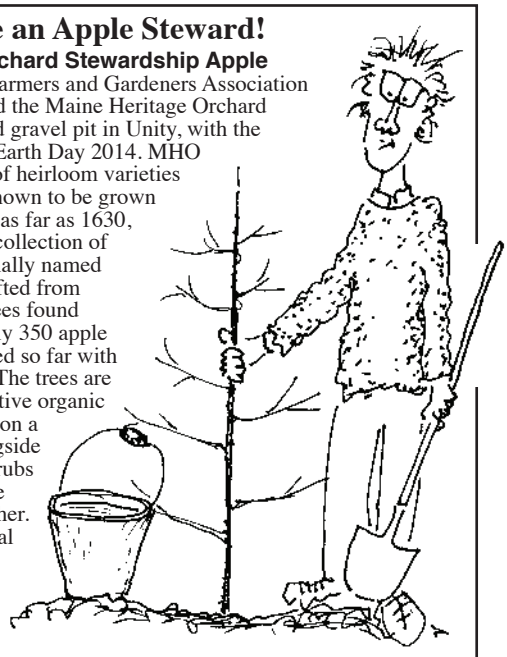
Zestar Late Summer. State Fair x MN 1691. U Minn, 1999. Also called **Zestar!** Extremely hardy high-quality mid-late summer dessert apple. Medium-sized blocky round fruit covered with red stripes and blush. Juicy and crisp with a well-balanced acid-sweet flavor. As the late Michael Phillips, New Hampshire orchardist and author of *The Apple Grower*, said, "When you tree-ripen Zestar, it's fabulous." Northern Maine orchardist Steve Miller added, "That's an impressive apple. From the standpoint of appearance and quality, they're first rate." Keeps in cold storage up to 7 weeks. Tree has moderately vigorous upright form; excellent horizontal branching habit makes it easy to train and prune. Precocious and annual-bearing. Blooms early season. Z3. **ME Grown.**

***190A** Zestar, $38.50*
***190C** Zestar on M111, $38.50*
***190D** Zestar on Bud 9, $38.50*

Become an Apple Steward!

Maine Heritage Orchard Stewardship Apple

The Maine Organic Farmers and Gardeners Association (MOFGA) established the Maine Heritage Orchard (MHO) in a renovated gravel pit in Unity, with the first trees planted on Earth Day 2014. MHO is home to hundreds of heirloom varieties of apples that were known to be grown in Maine dating back as far as 1630, as well as a growing collection of noteworthy, provisionally named seedling varieties grafted from impressive ancient trees found across the state. Nearly 350 apple trees have been planted so far with many more to come. The trees are managed with innovative organic practices and planted on a terraced hillside alongside native flowers and shrubs to create a polyculture orchard unlike any other. MHO is an educational resource, open to the public during various workshops, tours and volunteer days throughout the year.

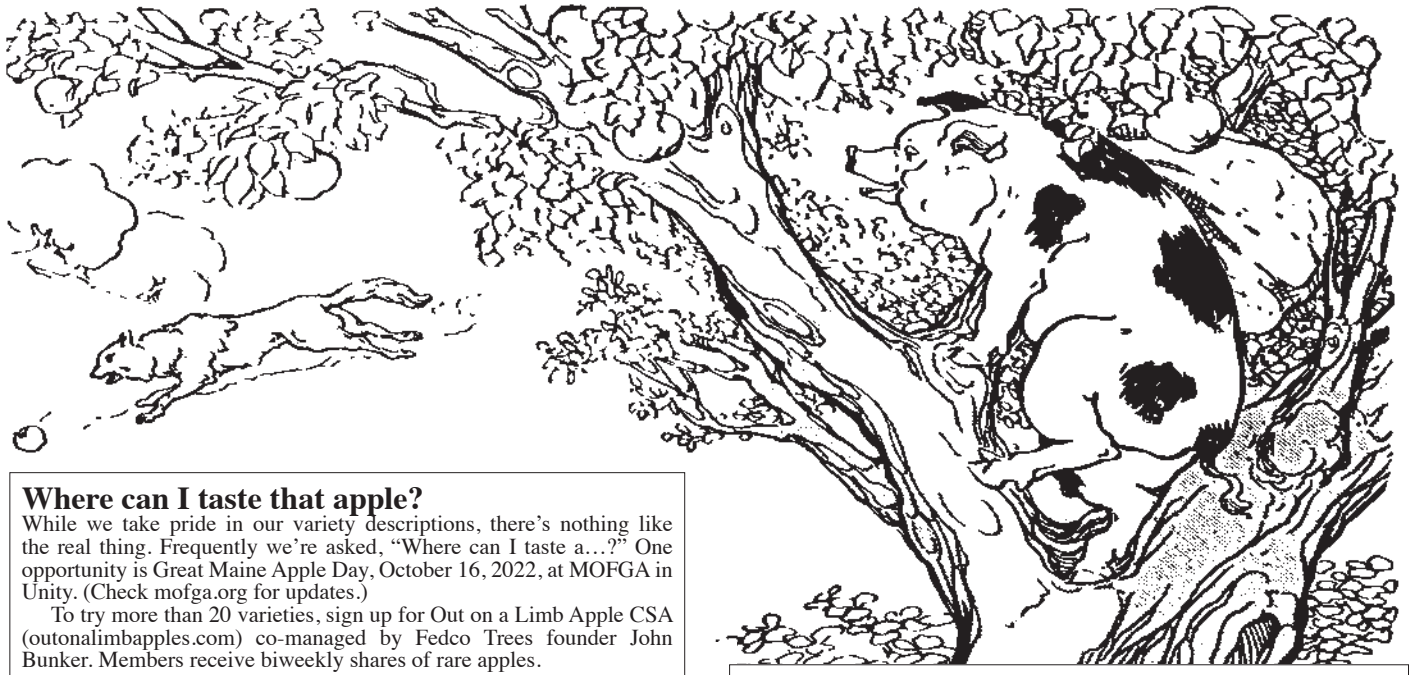


You can join in this effort by becoming an Apple Steward. By purchasing a Heritage Orchard Stewardship Apple, you become the proud keeper of one of the varieties growing at MHO. In the event that the orchard's tree dies, you'll have a backup so we can collect scionwood for grafting another.

We'll send you a historic apple tree with a description (if it's not listed in this catalog), and a form to fill out. After planting your tree, you return the form with the tree's location to MOFGA. MOFGA will contact you from time to time.

$30 from the sale of each tree goes to support the Maine Heritage Orchard project. All trees best grown from Z4-6. **ME Grown.**
(3-6' bare-root trees)

***204A** Stewardship Apple, $60.00*



Where can I taste that apple?

While we take pride in our variety descriptions, there's nothing like the real thing. Frequently we're asked, "Where can I taste a…?" One opportunity is Great Maine Apple Day, October 16, 2022, at MOFGA in Unity. (Check mofga.org for updates.)

To try more than 20 varieties, sign up for Out on a Limb Apple CSA (outonalimbapples.com) co-managed by Fedco Trees founder John Bunker. Members receive biweekly shares of rare apples.

Visit an orchard near you. There are many great orchards out there. Even one or two rare fruit finds can make the trip worthwhile. Below are some Maine orchards with good collections. For a more complete list of Maine orchards, go to maineapples.org.

For a longer list of orchards around the northeast, visit: fedcoseeds.com/trees/tasting.htm

Some orchards in Maine:

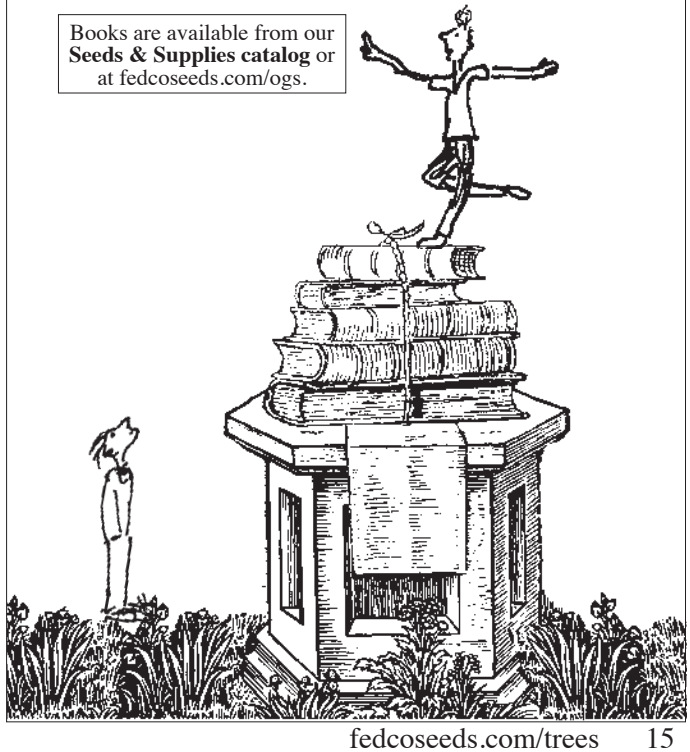
- The Apple Farm, Fairfield, Somerset County (207) 453-7656, applefarm.us. A great collection of unusual old and new varieties.
- Bailey's Orchard, Whitefield, Lincoln County (207) 549-7680. One of the largest collections of old varieties in the state. Other fruits, too.
- Cayford Orchards, Skowhegan, Somerset County (207) 474-5200, cayfordorchards.com. 57 new and heirloom varieties of tree fruits.
- Clayfield Farm, East Blue Hill, Hancock County (207) 374-2159, clayfieldfarm.net. Small organic orchard of mixed varieties.
- Doles Orchard, Limington, York County (207) 793-4409, dolesorchard.com. Mix of old and new. They have two un-named varieties crossed by the late Maine plant breeder Russell Bailey. Both are extremely rare, if not unique.
- 5 Star Orchard, Brooklin, Hancock County (207) 359-4960, 5starorchard.com. Organic heirloom apples, pears, plums and peaches.
- Lane Road Orchard, New Sharon, Franklin County (774) 265-0614. Many interesting heirlooms and unusual modern varieties.
- McDougal Orchards, Springvale, York County (207) 324-5054, mcdougalorchards.com. Many unusual apple varieties.
- Maine-ly Apples, Dixmont, Penobscot County (207) 234-2043, mainelyapples.com. Excellent collection of old, new and rare varieties.
- North Star Orchards, Madison, Somerset County (207) 696-5109, northstarorchards.me. Pick-your-own apples, cider mill, and farm store.
- Pietree Orchard, Sweden, Oxford County (207) 647-9419, pietreeorchard.com. Excellent assortment of heirloom and new varieties.
- Pleasant Pond Orchard, Richmond, Sagadahoc County (207) 737-4443. Apples, pears, plums, peaches, blackberries and pick-your-own highbush blueberries.
- Ricker Hill Orchards, Turner, Androscoggin County (207) 225-5552, rickerhill.com. Mostly modern varieties, some organic.
- Rollins Orchard, Garland, Penobscot County (207) 924-3504, rollinsorchards.com. More than 20 unusual old varieties.
- Sandy River Apples, Mercer, Somerset County (207) 587-2563, sandyriverapples.com. Francis Fenton's orchard, original source of many of Fedco's apple varieties. More than 40 heirloom and modern apples.
- Sewall Orchard, Lincolnville, Waldo County (207) 763-3956, sewallorchard.com. Organic apples including some of the first disease-resistant releases. Organic apple cider vinegar, too!
- Sweetser's Apple Barrel and Orchards, Cumberland Center, Cumberland County (207) 829-6599, maineapple.com. A great collection of 39 old and new varieties. Don't miss their Rolfe apples.

Read all about it!

Fedco Trees founder John Bunker wrote another book! This and more excellent titles are available from our **Seeds & Supplies catalog**, fedcoseeds.com/ogs. For more reading recommendations, see page 66.

Apples and the Art of Detection: Tracking Down, Identifying and Preserving Rare Apples by John Bunker, 2019. 407 pages, softcover. I've been listening to John talk about apples for as long as I can remember. The old varieties and why we should rescue them, the Johnny Appleseeds of America, and the shocking truth that you can't plant an apple seed and expect to get the same apple (gasp!). Because I'm an editor, I had the honor of contributing to my brother's masterpiece: *Apples and the Art of Detection*. I realized right away that this book, brilliantly framed as a Sherlock Holmes detective story, belongs not only on the shelf of anyone interested in apples; it is also for those who want to learn about the old-timey experts behind the scenes. In other words, John's mentors. We are introduced to these salt-of-the-earth characters and their apple orchards, and we fall in love with all of them. As a layperson, I especially enjoyed those sections, but I was also impressed with the precision and eloquence with which the science is presented. *Apples and the Art of Detection* has photographs and artwork galore, and is beautifully illustrated by the author himself. –Emily Bunker

Books are available from our **Seeds & Supplies catalog** or at fedcoseeds.com/ogs.



Cider Apples

Each year we offer a different assortment of the best European and American cider varieties, including new wild apple introductions from local cidermakers. Many of these are NOT for fresh eating. They do however possess qualities that make them very desirable for fermented cider production.

Ashton Bitter Early Fall. **Full bittersweet** cider apple. Dabinett x Stoke Red. GT Spinks intro, Long Ashton, England, 1947. Astringent cider apple with strong tannin, high sugar (SG 1.060) and low acidity. Very juicy. Medium-sized round opaque orange-yellow fruit, blushed and striped with red. Ripens in early fall, but we've pressed them in late October with good results. Best blended with sharps and other bittersweet varieties. Resurrected from an old Long Ashton trial orchard and planted extensively in recent years in England and the U.S. From 1903 until 2003, Long Ashton Research Station was the British center for the study of cider. Scab free. Blooms midseason. Z4. **ME Grown.**

***205C** Ashton Bitter on M111, $38.50*

Beech Hill Bittersweet Fall. **Bittersweet** cider apple. Bedan x unknown. A rare find in coastal Maine—magnificent spreading multi-trunked tree residing at the College of the Atlantic's (COA) Beech Hill Farm in Mount Desert for more than 100 years. Prized as a true bittersweet by Rocky Ground Cider and used in their blends. Soft astringent tannins. Minimal acidity. Small-to-medium irregular roundish fruit is yellow-green with a russet cavity and some red blush. Recent DNA tests revealed 14th-century traditional French bittersweet apple Bedan as a parent. But how did a Bedan seedling wind up on an island in Maine? COA history professor Todd Little-Siebold has a theory. Research suggests that in the late 19th and early 20th centuries, nurseries in Rochester, NY, imported hundreds of thousands of French seedling rootstocks from the cider-producing region of Normandy. Todd believes "the likely origin of the Beech Hill Bittersweet is that the farmers up on Beech Hill bought a tree from a New York nursery and the graft failed, leaving the Bedan seedling rootstock to grow for decade upon decade." Late bloomer. Z4. **ME Grown.**

***206A** Beech Hill Bittersweet, $38.50*

Binet Rouge Late Fall. **Traditional French mild bittersweet** cider apple. Unknown parentage. Probably from Normandy, France. Boré and Fleckinger, authors of *Pommiers à cidre: variétés de France*, classify it as sweet. Firm fine-grained pale yellow flesh is flavorful and aromatic. Often used for making Calvados or apple brandy. (SG 1.056–1.072, acidity 0.45%, tannin 0.2%) Small angular fruit, somewhat oblate and truncate, with a deep red blush covering about three quarters of the fruit. Medium-to-small russeted stem area and small prominent dots. Recommended for trial in most cider-apple growing districts. Eric Shatt of Redbyrd Orchard Cider provided the scionwood. Excellent pollinator with long-lasting mid-late bloom time. Probably Z4. **ME Grown.**

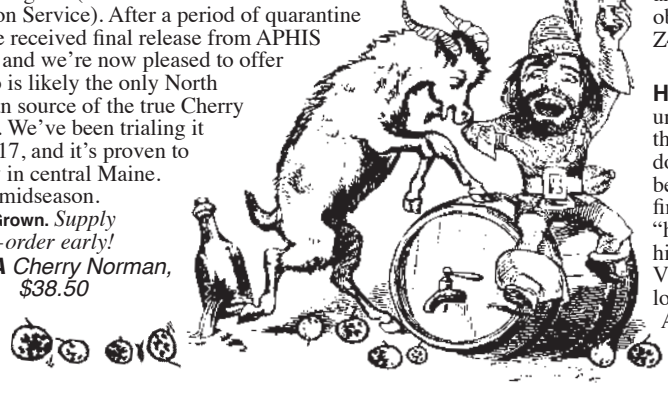
***207A** Binet Rouge, $38.50*

Breakwell's Seedling Early Fall. **Bittersharp** cider apple. Seedling discovered near Monmouth, Wales, c. 1890. Grafted by George Breakwell and later propagated and sold by UK cider giant H.P. Bulmer & Co. Makes a light thin cider on its own and is best blended with other early varieties. That said, Dunkertons of Herefordshire makes an award-winning single varietal Breakwell's cider. Small to medium, often irregularly shaped fruit is yellow with a light red blush and darker red broken stripes. Fruit tends to fall from the tree when ripe in late September to early October and should be pressed soon thereafter. Heavy cropper. Scab resistant. Blooms midseason. Z4. **ME Grown.**

***208C** Breakwell's Seedling on M111, $38.50*

Cherry Norman Fall. **Bittersweet** cider apple. Exceedingly rare, this classic English heirloom bittersweet probably originated in Herefordshire well before 1880. Roundish-oblate 2" brilliant red-blushed fruit, sometimes decorated with patches of russet. Tender white soft sweet astringent juicy flesh. We got our scionwood from English cider historian and collector John Teiser in collaboration with the USDA APHIS program (Animal and Plant Health Inspection Service). After a period of quarantine the apple received final release from APHIS in 2021, and we're now pleased to offer it. Fedco is likely the only North American source of the true Cherry Norman. We've been trialing it since 2017, and it's proven to be hardy in central Maine. Blooms midseason. Z4. **ME Grown.** *Supply limited—order early!*

***209A** Cherry Norman, $38.50*

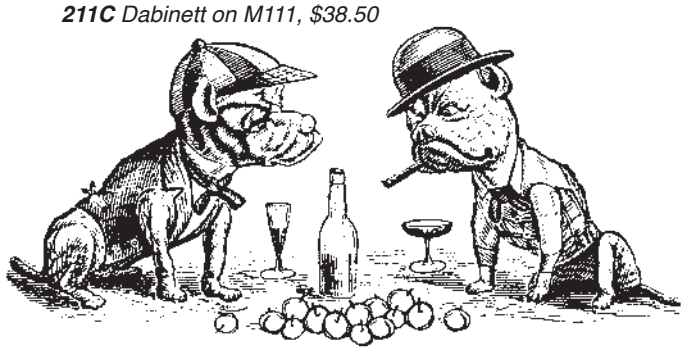


Chisel Jersey Late Fall. **Full bittersweet** cider apple. Martock, Somerset, England, 19th c. One of the most famous of the Somerset bittersweets. Best blended with other apples, it makes a strong rich cider. Medium acidity, highly astringent, harsh and high in tannins. (SG 1.068, acidity 0.20%, tannin 0.45%) Round to slightly conic slightly greasy fruit, colored with a beautiful combination of dull opaque reds, yellows and russets. In Old English *chesil* means 'pebble'—Chisel Jersey is small, hard and bitter! Spreading tree may require encouragement to develop a strong central leader. Consistent cropper. Closely related to Dabinett; they should not be relied on to pollinate one another. One source recommends Harry Masters Jersey as a good companion for pollination, but as usual, most other apples should do the job. Late bloomer. Z4. **ME Grown.**

***210A** Chisel Jersey, $38.50*

Dabinett Late Fall. **Medium-bittersweet** cider apple. Probably a seedling of Chisel Jersey. Middle Lambrook, Somerset, England. One of the most popular cider varieties in Somerset today and one of the mainstays of Poverty Lane Cider Orchards in NH. At a MOFGA workshop, Steve Wood of Poverty Lane and Farnum Hill Ciders said, "If you're going to plant one bittersweet, plant this one." Sugar content fair and fermentation moderate. High-quality well-balanced low-acid cider with a soft-tasting tannin. (SG 1.057, acidity 0.18%, tannin 0.29%) Medium-sized roundish fruit covered with brownish brick-red stripes and blush. Picked last week of October and usually blended with other late varieties. Crops annually. Grower-friendly tree with flat lateral branches may require help in developing a strong central leader. Not pollen compatible with Chisel Jersey. May be susceptible to fireblight in some locations. Midseason bloom. Z4. **ME Grown.**

***211C** Dabinett on M111, $38.50*



Ellis Bitter Early Fall. **Medium bittersweet** cider apple. Newton St Cyres, Devon, Somerset, England. Particularly useful for its early ripening, adding valuable bitterness to early-season cider pressings. (SG 1.033–1.053, acidity 0.2%, tannin 0.24%) Blend with other early dessert apples or cider varieties. Large oddly conic fruit, sometimes ribbed, mostly striped and blushed with red. White-fleshed, sweet, crisp and juicy. Soft, astringent, tannic. Still grown in England's West Country cider orchards and now being planted in the U.S. Fast-growing large upright rangy open vigorous tree produces regularly. Midseason bloomer. Z4. **ME Grown.**

***212C** Ellis Bitter on M111, $38.50*

Hagloe Crab Fall. **Vintage bittersweet** cider apple. Hagloe, Gloucestershire, England. One of the most famous of all English cider apples. In his 1884 *The Fruit Manual*, Robert Hogg notes that it produces "a liquor, which for richness, flavor and *pure on the spot*, exceeds perhaps every other fruit liquor which nature and art have produced." It will be interesting to see what it can do on this side of the Atlantic. Small 2" flattened irregularly shaped fruit is yellow with some red blush and gray russet, which can give the skin a rough texture. Long stem in a deep narrow cavity. Flesh is soft and mealy, sweet at first with a bitter aftertaste. Fedco may be the only North American source of the true Hagloe Crab. The apple received final release from APHIS in 2021, and we're now pleased to be able to offer it. This is another variety we obtained from English cider historian John Teiser. Blooms midseason. Z4. **ME Grown.** *Supply limited—order early!*

***213A** Hagloe Crab, $38.50*

Harrison Mid-Late Fall. **Vintage sharp** cider apple. Parentage unknown. South Orange, Essex County, NJ, as early as 1712. One of the most renowned American cider apples, dating from the early days of domestic cidermaking. Harrison cider was famous and considered to be better than champagne. Medium-small oval yellow-skinned fruit. Rich firm dry yellow flesh. According to William Coxe in 1817, it makes a "high coloured, rich, and sweet cider of great strength, commanding a high price in New-York, frequently ten dollars and upwards per barrell." Vigorous productive tree. A Harrison revival is underway in several locations on the East Coast. Performing well in our central Maine trials. Appears to be plenty hardy. Blooms mid-to-late season. Z4. **ME Grown.**

***214A** Harrison, $38.50*
***214C** Harrison on M111, $38.50*

Harry Masters Jersey Fall. **Medium-full bittersweet** cider apple. Often called **Port Wine** in north Somerset. Probably introduced by Harry Masters, Yarlington Mill, Woolston, Somerset, England, before 1900. High-quality bittersweet variety recommended for blending with other fall varieties. Soft astringent tannins. (SG 1.056, acidity 0.20%, tannin 0.32%) Becoming popular commercially in New England. One of the mainstays of Farnum Hill Cider in New Hampshire. Medium-large oblate-conic fruit, mostly covered with bright red stripes and blush, and a splash of yellow russet around the stem. Narrow upright tree form. Harry Masters himself was the miller at Yarlington Mill. Harry Masters Jersey and Yarlington Mill are thought to be of the same parentage. Blooms midseason. Z4. **ME Grown.**

215C *Harry Masters Jersey on M111, $38.50*

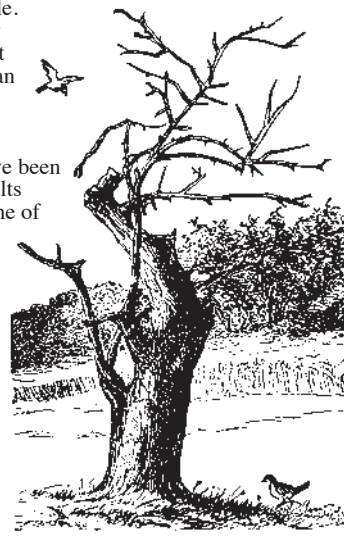
Hewe's Virginia Crab Fall. **Vintage sharp** cider apple. Probably a seedling of the native *M. angustifolia*, the Southern Crab. Introduced about 1700 in Virginia. One of the most prized of all American cider apples. One of the rare varieties recommended for single varietal cider. In his 1817 *A View of the Cultivation of Fruit Trees*, William Coxe devoted an entire chapter to making cider with Hewe's. The red-skinned white-spotted fruit is small, round, juicy, tough, astringent and acidic. According to AJ Downing in 1848, Hewe's "makes a very high-flavored dry cider, which, by connoisseurs, is thought unsurpassed in flavor by any other, and retains its soundness a long time." Incredibly vigorous, productive and healthy in our trials. Quite hardy despite its name. Long ago used as a rootstock even as far north as Maine. Prolific large white blooms persist for a long time midseason, making it a great pollinator for other varieties. Z4. **ME Grown.**

216A *Hewe's Virginia Crab, $38.50*
216C *Hewe's Virginia Crab on M111, $38.50*

Kingston Black Fall. **Vintage bittersharp** cider apple. Parentage unknown. Somerset, England, early 19th c. High in tannin and acidity. (SG 1.061, acidity 0.58%, tannin 0.19%) Produces full-bodied vintage cider with a nice blend of acid, tannins and sugar. One of the noteworthy varieties that makes a high-quality single variety hard cider; also good in a blend. We became fans of Farnum Hill's tasty Kingston Black varietal. Now we make it ourselves. Also makes superb fresh cider. Even the fresh juice is a deep rich dark color. Medium-sized conical beautiful rich red fruit is mottled with red russet and deeper shades of maroon. Fairly decent fresh eating. The tree is a reliable bearer, but is gangly and needs careful pruning. Blooms midseason. Z4. **ME Grown.**

217A *Kingston Black, $38.50*
217C *Kingston Black on M111, $38.50*

Old Fertile Fall. **Sweet** cider apple. Wilmington, VT. From the Gnarly Pippins wild-apple collection. Matt Kaminsky, aka Gnarly Pippins, is an adept forager who has discovered numerous untamed apple varieties with superior qualities across the Northeast. Many of these finds have been grafted *ex situ* with promising results for cider orchards. Old Fertile is one of the best. A complex sweet apple with what Matt calls "super duper flavor. Honey sweet with a bit of vanilla or honeysuckle." Makes good sweet cider (Brix 18–20) sometimes with a bittersweet lean. Low acid. Round to round-oblate fruit is intense yellow with a russeted stem cavity. The original tree produces small-to-medium apples, but grafted specimens show increased fruit size. Stores well. Strong low-maintenance trees with no disease pressure observed. Blooms midseason. Z4. **ME Grown.**



219C *Old Fertile on M111, $38.50*

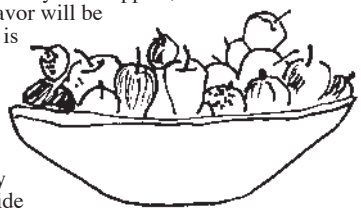
Porter's Perfection Late Fall. **Medium bittersharp** cider apple. Charles Porter intro, East Lambrook, near Kingsbury Episcopi, Somerset, England, before 1900. Heavy cropper of small dark red-blushed fruit. (SG 1.054, acidity 0.82%, tannin 0.25%) Pomologist Liz Copas writes that it "can produce an excellent cider. Its juice is rather acidic bittersharp and is better blended for a more balanced product." When we meet cidermakers, we always ask them about their favorite varieties. Eric Shatt of Redbyrd Orchard Cider in the Finger Lakes region of New York replied, "Porter's Perfection." Redbyrd's website calls it an "excellent balance of tannins and acidity." Often produces twins or triplets—two or more fruits fused together. Similar to the excellent Lambrook Pippin; the two varieties are thought to be of same parentage. Scab resistant. Blooms midseason. Z4. **ME Grown.**

221A *Porter's Perfection, $38.50*
221C *Porter's Perfection on M111, $38.50*

Redfield Fall. **Bittersharp** cider apple. See page 12 for description.

It's All in the Mix!

"From the great diversity of soil and climate in the United States of America, and the almost endless variety of its apples, it followed that much diversity of taste and flavor will be necessarily found in the cider that is made from them."
– Colin MacKenzie, 1829

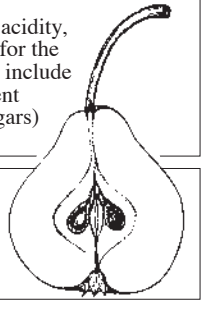


For the best cider, plant several varieties. That's because when it comes to cider, it's all in the mix. Unlike beer, cider usually has only one ingredient: apples. They provide everything: acidity, sugar, tannin and flavor.

We classify the cider varieties into four categories: **sharp** (low in tannins, high in acid), **sweet** (high in sugar, little or no tannin, low acid), **bittersharp** (high in tannins and high acid) and **bittersweet** (high tannins and sugar, low acid). **Tannin** denotes naturally occurring compounds whose bitter astringency gives rounded full flavor, body and golden color. What's the difference between bitterness and astringency? An excellent University of Reading publication *Sustainable Cider Apple Production* attempts to define them: "Astringency is a drying, puckering sensation in the mouth in which the whole tongue is affected, while bitterness is mostly perceived at the sides and back of the tongue."

Vintage refers to varieties with perfect qualities for single-variety cider. Most cider is best blended.

We recommend you plant some sharp apples for acidity, some sweet apples for sugar and some bitter apples for the tannin. For those who are really serious about it, we include where we can the percent malic acid (acidity), percent tannic acid (tannins) and specific gravity, or SG (sugars) for the individual varieties.



Pears for pressing

Perry pears, which are varieties especially suited to fermented pear cider, can be found on page 21.

John and Cammy's Simple Hard Cider

Apple juice wants to ferment. Although there are many books, websites and conferences devoted to hard cider, the process is quite simple.

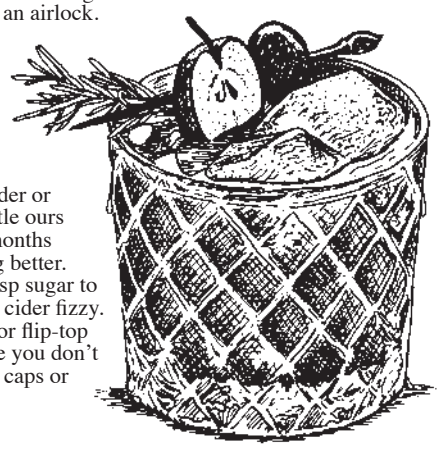
Our best ciders come from a mix of different apples. We combine wild seedling apples, small and somewhat bitter, with sweet low-acid apples like Tolman Sweet or Pound Sweet, and bittersweets like Dabinett, Yarlington Mill, or other cider varieties. That said, just use what you have!

A bushel of apples will yield about 3.5 gallons of juice. You can buy, borrow or build a cider press. You could also buy fresh cider from a local orchard in the fall.

Pour juice into a clean container, such as a glass gallon jug, a 5-gallon carboy, or a 50-gallon wooden whiskey or wine barrel. We clean our fermentation vessel with potassium metabisulfite, available at beer/wine supply stores.

Some cidermakers add yeast. Others add raisins, brown sugar, various fruits or even a piece of steak. Our cider is just juice. The natural yeasts on the farm are enough to make great cider.

Seal the vessel with an airlock. When the airlock stops bubbling, the fermentation is done. This takes several months in the cool basement where we ferment our cider.



Time to drink the cider or bottle it. We like to bottle ours and wait another few months because it keeps getting better. Sometimes we add 3/4 tsp sugar to each bottle to make the cider fizzy. Twist-top wine bottles or flip-top bottles are easy because you don't need to purchase bottle caps or corks. Enjoy!

Spirit Tree Fall. **Bittersweet** cider apple. Greeley Corner, Palermo, ME. From a huge old seedling tree, tremendous bittersweet cider potential. Very flavorful. Medium-sized roundish-conic fruit is reminiscent of Yarlington Mill in shape. Blushed orange and striped red with russet netting and patches of orange russet and large russet dots. Exceedingly beautiful. Probably at its best around October 1 or a bit later. Rediscovered by Dan Newman and Laura Sieger in 2017 in an old Palermo orchard. Currently on trial in multiple central-Maine locations. Recommended for all cidermaking districts. Thanks to Barbara Clorite-Ventura and Denise Ventura for providing access to the incredible tree, which they named for the tree spirit whose ancient earthy face can be seen in the massive trunk. Blooms midseason. Z4. **ME Grown.** *Supply limited—order early!*

***222A** Spirit Tree, $38.50*

Sweet Alford Fall-Winter. **Vintage** cider apple. Devon, England, 18th c. Often planted in commercial cider orchards, Sweet Alford produces a sweet juice that ferments into a high-quality mild bittersweet cider. Suitable as a single varietal cider but also blends well. Robust ciders made from strong bittersharps like Kingston Black can be softened with the mild aromatic fruity juice of Sweet Alford. (SG 1.052 acidity 0.20% tannin 0.18%) Medium-sized fruit is pale yellow with a rosy blush and waxy skin and can also be eaten fresh. Large to very large tip-bearing trees have heavy crops. Blooms midseason. Z4. **ME Grown.**

***223A** Sweet Alford, $38.50*

Tarecap Bitter Fall. **Bittersweet** cider apple. Unknown parentage. Old seedling tree discovered by Thomas Foote, Hiram, ME. Mildly astringent, mellowing after frost and hanging on the tree indefinitely. Good potential for late-season cider pressings. The round long-stemmed 2–3" fruit, relatively large for a cider apple, is an attractive ruddy rusty red over muted yellow-green ground color. Thriving in MOFGA's no-spray low-intervention South Orchard, where it is displaying natural disease and pest resistance. There's a good crop on the trees there this year—we'll let you know how the cider turns out! Uncertain bloom time. Z4. **ME Grown.**

***224A** Tarecap Bitter, $38.50*

White Jersey Late Summer-Early Fall. **Mild bittersweet** cider apple. Somerset, England, 19th c. Small yellow round-conic fruit ripens early and should be pressed soon thereafter. Carr's Ciderhouse and Preservation Orchard in Hadley, MA, makes an early-season cider blend focused on White Jersey and balanced with early sharp crabapple varieties such as Kerr or Hyslop. Try it with other early tart apples like Pomme d'Or, Dolgo crab or Winekist. Silvopasture orchardist and cidermaker Matt Kaminksy describes the juice as "full bodied with a strange unique flavor of parboiled maple sap, fenugreek and slightly under-ripe banana. Very aromatic. Highly recommended." Scionwood provided by Carr's. May be susceptible to fireblight in some areas. Late bloomer. Z4. **ME Grown.**

***226A** White Jersey, $38.50*

Wickson Fall. **Vintage sharp** cider apple. See page 14 for description.

A Historic Tour of Ciders

People have been fermenting apple juice for ages. Julius Caesar discovered Celts making hard cider from wild crabapples in Britain in 55 BC. The Roman and Norman invasions brought new apples and advances in pressing to the region, where the climate is just right for apple trees. Each area developed its own style of cider and traditions.

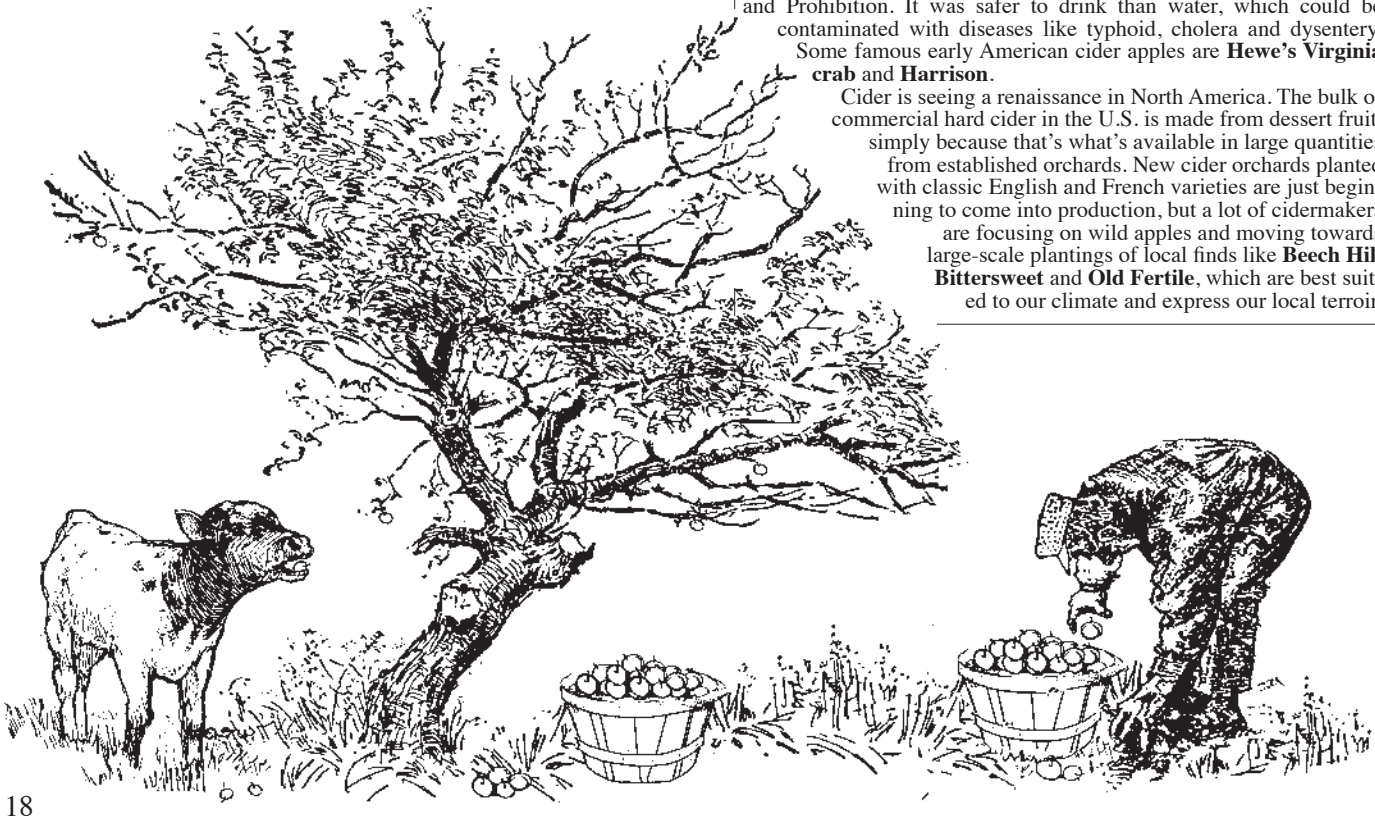
England By the 14th century, cidermaking in the Yorkshire, Worcestershire, Herefordshire and Somerset regions of the UK was widespread, with advanced pressing technology and selected cider varieties, though at the time wine was still the most popular spirit. The Little Ice Age between the 16th and 19th c. killed off most grape vines there, and wars with France, Spain and the Netherlands made it difficult to import wine. Apple trees thrived, and cider prevailed. It's easy to find cider on tap in pubs throughout the UK, where some of the world's largest cider producers are based. English cider tends to be dry, full-bodied and complex and is made with tannic bittersweet and bittersharp apples such as **Chisel Jersey**, **Dabinett**, **Kingston Black** and **Porter's Perfection**.

France Cidermaking in France dates back to the 6th or 7th c. and is focused in the Normandy and Brittany regions. French *cidre* tends to be sweeter but not from the addition of sugars and syrups like a lot of modern ciders. Most cidermakers in France use a labor-intensive technique called *keeving* to slow down fermentation before all of the natural sugars are converted to alcohol. This produces a sparkling cider with residual sugars that must be stored in strong glass bottles, corked to prevent explosion. In Normandy cider is often distilled into Calvados, a strong apple brandy. French cider is made from bittersweet apples such as **Binet Rouge** and Medaille d'Or (which we've offered in the past).

Spain Cider has been made for centuries in Spain along the Atlantic coast and especially in the northern Asturias region. Spanish *sidra* can be funky, tart, flat and full of sediment. A joke among some cidermakers when a barrel goes bad is, "Just call it Spanish cider!" But Asturians love their cider and know how to drink it properly. The rich amber liquid must be poured from a great height to force air bubbles into the cider, slightly carbonating it. Only one or two gulps are poured at a time to be downed immediately! Cider is sold in lively establishments called *sidrerías* where family and friends often gather to taste the cider directly out of the giant wooden fermentation barrels. A lot of Spanish cider apples are sharp like Piel de Sapa, Collaos and Solarina. We're building up a stock of Spanish apples and hope to offer some soon!

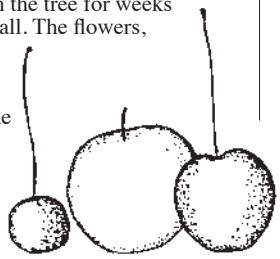
U.S. When white colonists settled in North America they struggled to grow grains like wheat and barley, but apple trees quickly took hold. Before grafted culinary varieties from Europe were widely planted, folks would squeeze juice from the unpalatable "spitters" of seedling trees. Cider was wildly popular before the Industrial Revolution and Prohibition. It was safer to drink than water, which could be contaminated with diseases like typhoid, cholera and dysentery. Some famous early American cider apples are **Hewe's Virginia crab** and **Harrison**.

Cider is seeing a renaissance in North America. The bulk of commercial hard cider in the U.S. is made from dessert fruit, simply because that's what's available in large quantities from established orchards. New cider orchards planted with classic English and French varieties are just beginning to come into production, but a lot of cidermakers are focusing on wild apples and moving towards large-scale plantings of local finds like **Beech Hill Bittersweet** and **Old Fertile**, which are best suited to our climate and express our local terroir.



Flowering and Culinary Crabapples *Malus* spp.

A crabapple is any apple with fruit smaller than 2" in diameter. Crabs bear edible fruit, some more favorable for culinary use than others. Some have persistent wildlife fruit that hangs on the tree for weeks or even months. Others have hardly any fruit at all. The flowers, tree form and even the shape of the leaves can vary subtly or profoundly. Most are magnificent in bloom and are often ornamental year round, especially in winter when the leaves drop and the trees show off their interesting forms. Although crabs prefer full sun and deep well-drained soil, they are quite forgiving and will thrive in many locations with a little TLC.



Similar cultural requirements as culinary apples (see pages 69-70).

Crabapples require less formal pruning than other apples. Prune broken branches and suckers, and encourage the tree to assume its natural form. **Crabapples need a second variety for pollination,** but any apple or crab blooming around the same time within 1/4 mile will probably do.

Our crabapples are grafted on M111 rootstock (see page 5). (Stock is 2½–5', unless otherwise noted)

Blanche Ames 25x25' *M. spectabilis* AA-6639 ('Riversii' x open-pollinated) Karl Sax intro, Arnold Arboretum, 1947. One of the loveliest double whites. Wide-spreading mounded semi-weeping form, open and picturesque. A beautifully shaped tree with an interesting curvy branch structure you can see right through. Magnificent in bloom. Pale apricot-pink buds open to small white slightly cupped long-stemmed starlike flowers. The red flower stems add a reddish cast to the tree in bloom. The whole tree appears draped with foliage and flowers like a million stars in a deep green sky. Small 1/4" yellow-gold fruit. Blanche Ames (1878-1969) was an artist, writer and activist. She illustrated a seven-volume treatise on orchids and produced political cartoons promoting women's suffrage. She was an outspoken advocate for women's rights, including the right to birth control. Z3/4. **ME Grown.**

***241C** Blanche Ames Crabapple on M111, $38.50*

Brandywine 20x20' *M. ioensis* 'Plena' Klehm's No. 8 (*M.* x *purpurea* Lemoinei x M. Klehm's Improved) Incredibly beautiful fragrant flowers followed by unbelievably bitter fruit. Deep red buds open to small deep pink double rose-like blossoms. Put an arrangement of these flowers in a vase, and people will swear they are roses. One of the most fragrant crabs. Cidermakers love the unattractive 1–2" yellow fruit that drops in the fall and makes a mess. Very high in tannin. In *Cider Digest* some years ago, one grower wrote, "You ought to try planting a crab called 'Brandywine'. WOW!!! what a real mouth-killer as far as tannin goes… Couldn't tell you the acidity because my tongue had gone dead." Loosely rounded tree blooms every other year. Z4. **ME Grown.**

***242C** Brandywine Crabapple on M111, $38.50*

Coralburst 8-10' x 12-15' *M. sieboldii* x open-pollinated. Henry Ross intro, Strongsville, OH, 1968. A neat small nearly perfectly symmetrical floriferous crab. Looks like a small rounded upright shrub perched on top of a single straight trunk. Red buds followed by double blooms, each with 10 petals, very light pink with red backs. Light yellow-green spring foliage is quite visible, an integral element in the overall effect—a unique and delightful combination of pink and light green. This is a tree you could plant right in your garden. Reddish-orange 1/2" fruit. Blooms somewhat late. Rarely requires pruning. One of our absolute favorites— we are so happy to have it back after several years' absence. Z3. **ME Grown.**

***243C** Coralburst Crabapple on M111, $38.50*

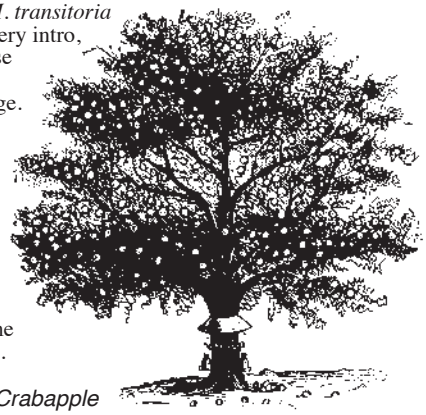
Dolgo 25x30' From seed collected by NE Hansen of *M.* x *robusta* in 1897 at the Imperial Botanical Gardens, St. Petersburg, Russia. (*Dolgo* means 'long' in Russian.) Introduced in the U.S. in 1917. The classic culinary crab still found in old Maine dooryards. Apricot-pink buds, large fragrant 2" pure white single flowers bloom early. Beautiful purple-red 1½" teardrop-shaped fruit makes flavorful clear ruby-red jelly. In recent years the aromatic sweet very acidic fruit has found favor with cidermakers. Great for canning, pickling and delicious sauce. Vigorous large blocky upright spreading tree consistently yields abundant summer crops. Very hardy. Z2. **ME Grown.**

***244C** Dolgo Crabapple on M111, $38.50*

Fountain 4 x 6' Fiala intro, 1950. Low and slow growing "shrub form" dwarf weeper. Might be the smallest crab variety to be found. Ours is only 4' 2" after 25 years. Grows about 2" each year. Great in a small space or as a feature in a low perennial bed. Pink buds open to gigantic 2" single white flowers. Dark red 1/2" fruits are persistent through winter. Leaves can be smaller and irregularly shaped. Exhibits some resistance to scab. Has become the parent to a whole line of flashy new small weepers. We saw this one in grower Delton Curtis's yard and thought it some cunning. (That's how we say 'adorable' in Maine.) Very rare in the trade and first time in our catalog. Welcome, little weeper. Z4. **ME Grown.** (Note: this tree is 18-24" at time of shipping.)

***245C** Fountain Crabapple on M111, $38.50*

Golden Raindrops 20x15' *M. transitoria* 'Schmidtcutleaf' Schmidt Nursery intro, about 1993. Outstanding profuse delicate single white starlike flowers. Deeply cut green foliage. In the fall you can see where it got its name, as very small persistent golden-yellow fruits hang in clusters like raindrops. Lures in the robins. Upright vase-shaped tree, a wonderful specimen in all seasons. Plant where you'll walk past frequently. Excellent disease resistance although some fireblight has been reported. Z3. **ME Grown.**



***246C** Golden Raindrops Crabapple on M111, $38.50*

Hatchet Mountain 15-20' x 20' Chance seedling discovered and named by John Bunker in Hope, ME, 2015. Magnificent large red flowers have almost no blue in the color, making it unusual for a red-flowering crab. The 1" fruit is a very pretty red-orange and has good culinary potential for filling the jelly jars quickly. Most fruits are solid colored but some are yellow-orange on one side with a beautiful deeper red on the blush side and a nice purple matte bloom. Young foliage emerges purple-red and fades to bronzy-maroon, finally becoming green with prominent red venation that gives the tree a summer-long multicolored effect. The cherry-red veins light up on a sunny day; when it's overcast, the whole tree has a silvery sheen. Stunning all the time. Z3/4. **ME Grown.**

***247C** Hatchet Mountain Crabapple on M111, $38.50*

Sargent, Mt. Auburn strain 8-10' x 20-30' *M. sargentii*. Arnold Arboretum, 1892. If you've never seen a Sargent crab, you're in for a treat. Barely 8' tall and more than 30' wide, a delightful jumble of twists and curves—a dozen connected pretzels trying to out-pretzel each other. Densely and horizontally branched from the base with no tendency to develop a central leader, so don't force it! Pink buds and profuse pure-white fragrant single flowers seem to bloom forever. Very small dark red-purple persistent fruit. Seed collected in Hokkaido, Japan, by one of America's most famous horticulturists, CS Sargent. A species rather than a variety, many of the Sargents have been started from seed: hence the variability. This one is from the front entrance of the Mt. Auburn Cemetery in Cambridge, MA. Disease resistant. Z4. **ME Grown.**

***249C** Sargent Crabapple on M111, $38.50*

Waterville Crab 15x15' Unknown parentage. Small rounded tree with single white blossoms is loaded each fall with 1½" deep maroon culinary fruit suitable for jelly and cider. Jack Kertesz discovered it thriving out beyond the Waterville Post Office parking lot. For decades, Jack has been one of Maine's top fruit explorers. His enthusiasm is infectious and his dedication is inspirational. His notes on the Waterville Crab read, "The young tree receives no care… sets fruit in long clusters (spur type)… most fruit is cosmetically perfect… strong flavor." Another lost gem discovered in the landscape. Probably a named variety, but for now we're calling it the Waterville Crab. Z4 or maybe Z3. **ME Grown.**

***251C** Waterville Crabapple on M111, $38.50*

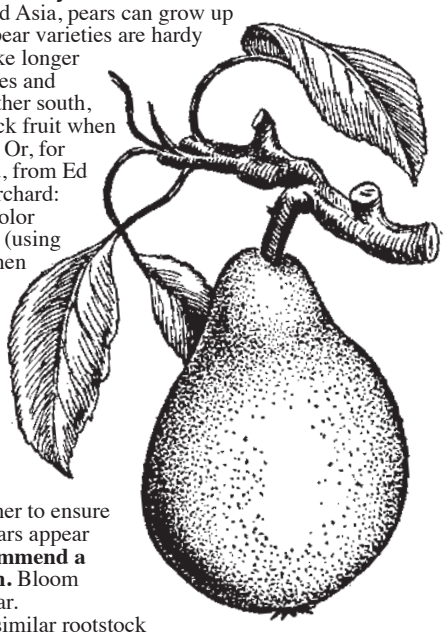
Category schmategory!

When we determine that a crab's culinary value overrides its ornamental "crabbiness," we list it in the main apple or cider section. Here are more small-fruited varieties that are technically crabs:

- Almata
- Chestnut
- Pipsqueak
- Whitney Crab
- Trailman
- Hagloe Crab
- Hewe's Virginia Crab

Some ornamental crabs, like **Dolgo** and **Brandywine**, are great in hard cider. **Dolgo**, **Hatchet Mountain** and **Waterville Crab** make great jelly.

European Pears *Pyrus communis*



Native to temperate Europe and Asia, pears can grow up to 100' tall in the wild. Many pear varieties are hardy in New England but tend to take longer to come into bearing than apples and might not bear every year. Farther south, pears tend to bear annually. Pick fruit when green and ripen it on the shelf. Or, for optimal eating, try this method, from Ed Fackler of Rocky Mountain Orchard: "…when fruits exhibit slight color changes, begin to test pressure (using your thumb) near the stem. When there is a slight 'give,' pick all the fruit, store at or near 35° for 7 or more days. Then remove them as needed, allow them to sit at room temps for 2–4 days which allows them to ripen to peak flavor."

Pear blossoms seem to be less attractive to bees than apple blossoms, so pears should be planted closer together to ensure pollination. Although some pears appear to be self-pollinating, **we recommend a second variety for pollination.** Bloom dates for all varieties are similar.

Pears are on OHxF97 or a similar rootstock and will reach 25' or taller at maturity; plant 15–20' apart. (2½-6' trees)

Bartlett Late Summer. Seedling found in Aldermaston, England. Introduced to the U.S. in the late 1700s. Also known as **Williams' Bon Chrétien**. The most widely planted and well known of all pears in U.S. commercial production. Adaptable to many climates and soils. Large classic pear-shaped greenish-yellow fruit; very good quality. Full reliable annual crops. Might be iffy north of Bangor. Large vigorous easy-to-grow long-lived tree bears young. Susceptible to fireblight. Good pollinator for Asian pears. Z4. **ME Grown.**

***272A** Bartlett Pear, $38.00*

Beurre Clairgeau Mid-Late Fall. Pierre Clairgeau intro, Nantes, France, circa 1830. Large Bartlett-shaped yellow fruit with a beautiful red blush sprinkled with russet. At its best, the fruit is richly flavored, melting, buttery, juicy, sweet and aromatic. Brought to the U.S. around 1854, Clairgeau found its niche for canning and other cooking. The trees are beautiful, vigorous, unusually upright, healthy, very productive, bearing young and annually. Quickly spread throughout New York and New England up into Maine, becoming a mainstay of American pear growing at that time. Now mostly forgotten—we're pleased to have it back. Z4. **ME Grown.**

***273A** Beurre Clairgeau Pear, $38.00*

Bosc Fall. Seedling introduced by Van Mons, Lourain, Belgium, 1807. Also called **Beurre Bosc**. Long-necked fruit is dark rich yellow covered with cinnamon-brown russet. Distinctive sweet rich spicy buttery flavor. Melting juicy tender white flesh has smooth texture and a pleasing aroma. Somewhat gritty around the core. Large vigorous upright spreading tree bears huge crops annually. Good pollinator for other varieties. A longtime favorite throughout central Maine. Z4. **ME Grown.**

***274A** Bosc Pear, $38.00*

Cabot Vermont Fall. An old dessert pear, circa 1850, discovered in Cabot, VT, a few miles west of the New Hampshire border and about as far north as Bangor, ME. A superior dessert pear with medium-large pear-shaped fruit. Yellowish skin has a slight reddish blush. Yellowish sweet flesh is coarse grained, extremely juicy, with no grit cells. Not only is it a delicious dessert fruit, it is also remarkable for its very rare "double" flowers. Highly ornamental! Introduced to us many years ago by Armando Bona of Passumpsic, VT. Not to be confused with the old Massachusetts pear Cabot. Annual and self-pollinating. Very hardy. Z4 or possibly even Z3. **ME Grown.**

***275A** Cabot Vermont Pear, $38.00*

Comtesse Clara Frijs Late Summer. Denmark, 19th c. Very old delectable dessert pear, first described in 1858 by JA Bentzien in the Danish garden journal *Dansk Haugetidende* and thought to be from the village of Skensved. Medium-sized thick-skinned pear-shaped fruit is dotted yellow-green, sometimes with a very slight pink blush like a spot of rouge. The buttery aromatic flesh is firm but not crisp with no grit cells. Juicy but not dripping. You can eat it in the car. You can eat it right down to nothing. Keeps for a month. Solid rugged hardy tree. Z4. **ME Grown.**

***276A** Comptesse Clara Frijs Pear, $38.00*

Dana Hovey Winter. Thought to be a seedling of Seckel. Roxbury, MA, about 1854. Introduced by 19th-c. fruit enthusiast Francis Dana who dubbed it "Dana's Hovey" in honor of CM Hovey, Boston nurseryman and author of *The Fruits of America*. Sometimes called **Winter Seckel** because of its similarity to Seckel. Small squat rich golden-yellow russeted fruit. Intensely sweet highly aromatic tender storage pear has excellent flavor; possibly the best eating of all winter pears. Keeps extremely well. Harvest in October and store in a cool dry spot. Still great eating in December—sometimes even as late as February. Hardy vigorous moderately productive spreading tree adapts to a variety of soils. No scab and relatively few bugs. Z4. **ME Grown.**

***277A** Dana Hovey Pear, $38.00*

Diel Late Fall. Chateau of Perck, Vilvoorde, Belgium, 1805. Chance seedling found by Meuris, the head gardener to Jean-Baptiste Van Mons, the pear breeder who gave us Bosc. Medium-sized dessert pear with yellowish-green skin that is russeted and sometimes blushed faintly pink-red. Yellow-white flesh is sweet, juicy and firm, becoming meltingly tender with each bite. Vigorous tree is spreading, yields a good-sized crop. Excellent keeper. Rare. Z4. **ME Grown.**

***278A** Diel Pear, $38.00*

Gorham Early Fall. Bartlett x Josephine de Malines. New York Stn, Geneva, NY, 1923. Dessert pear of excellent quality. Smooth, dense, juicy and sweet. Large yellow fruit, often partly or entirely russeted, ripens a week or two later than Bartlett, which it resembles in size and shape. Stores well. Introduced to us by Fedco grower John Meader who wrote in the note he included with the fruit, "I had a dozen or so high up in the tree that were better specimens but the wind dropped them while I was unaware, and a flock of turkeys ate the drops—it's always something." Upright vigorous productive (tall!) tree. Quite hardy. Z3/4. **ME Grown.**

***280A** Gorham Pear, $38.00*

Harrow Delight Early Summer. Bartlett x Purdue 80-51 (Early Sweet x Old Home). HA Quamme, Harrow, Ontario, 1982. Medium-sized fruit is yellow-green with a red blush. Sweet juicy white flesh is smooth with no detectable grit. Ripens a few weeks before its parent Bartlett. Uncommonly productive: you may need to thin fruit to prevent snapping limbs. Bred for hardiness and strong resistance to fireblight. This is its first appearance in our catalog! Z4. **ME Grown.**

***281A** Harrow Delight Pear, $38.00*

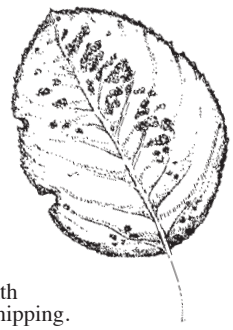
Kaspar's Winter Late Fall-Winter. Frankendorf, Germany. Very good tough-skinned storage pear—will keep until April in the root cellar. Greenish-mottled medium-small pear-shaped fruit with some russet splashes or dots. Coarse flesh with a floral vanilla-cake flavor, as described by Trees coordinator Elizabeth Smedberg. Very hard off the tree; don't begin to eat them until a month after picking. Years ago this nameless winter pear found its way from the roadside near Frankendorf to Unity, ME. The name came later, courtesy of grower Howard Wulf who calls it "the latest-keeping pear I've ever seen." Sturdy adaptable hardy precocious tree. Recommended for those who want pears into January. Z4. **ME Grown.**

***282A** Kaspar's Winter Pear, $38.00*

Nova Late Summer. Hammond, NY. Seedling discovered and introduced by Bill MacKentley of St Lawrence Nurseries, Potsdam, NY. Large yellow rounded dessert fruit covered in green dots with occasional russet splashes. Melting juicy flesh. Chris Blanchard's favorite pear. For decades he and Liz Lauer have been trialing a wide assortment of pears a few hours north of us in Penobscot County. He described it as "large with smooth creamy texture and a thin skin. Wonderful dessert pear. Also the best canning of our 12–14 varieties." Holds its shape in the jar. Very hardy, though from our trials in northern Aroostook County, not quite as hardy as Patten. Appears to be scab free. Z3. **ME Grown.**

***284A** Nova Pear, $38.00*

Pear Leaf Blister Mite



Pear leaf blister mites can sometimes be a problem for pear growers in the U.S. The tiny mites overwinter under the bud scales and become active in spring. They are too small to see with the naked eye, but you'll know you have them if pear foliage looks like it has red blisters that eventually turn black. We recommend a dormant oil spray in spring just before the pears leaf out. You can also do a sulfur spray in the fall. (Apply appropriately, with protection. Read labels.) As a precaution, we spray Fedco pear trees with Organic JMS Stylet-Oil in the spring before shipping. You'll find organic treatments for fruit trees in our **Seeds & Supplies catalog**, or at fedcoseeds.com/ogs. We have noticed that trees often outgrow the infection even if you do nothing at all.

Patten Late Summer. Orel 15 x Anjou. CG Patten intro, Iowa St U, 1922. Very good fresh eating with sweet "high flavor." Oblong and greenish-yellow with a red blush. Vaguely reminiscent of Bosc in size and shape. Fine-grained soft flesh has minimal grit cells. Good canning pear. Tree is extremely adaptable, growing all over the Northeast. Long willowy very flexible branches won't break even under the weight of its heavy crops. Fared incredibly well during the cold "test winter" several years ago when hundreds of northern Maine pear trees died to the roots. Extremely hardy and highly recommended for coldest districts. A good pollinator for other varieties. Scab resistant. Z3. **ME Grown.**

***285A** Patten Pear, $38.00*

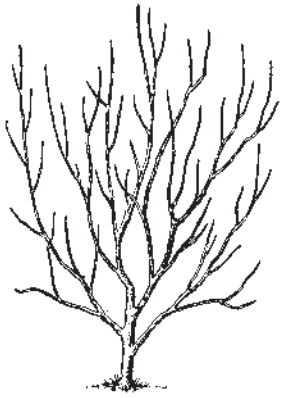
Seckel Late Summer. Seedling found near Philadelphia, PA, early 1800s. Sometimes called **Sugar Pear**. Often considered the best-flavored of all pears; even the skin is delicious. Small squat fruit is russeted yellowish-brown often with a deep red blush. Juicy, spicy, distinctive and aromatic. Eat ripe off the tree, or pick firm and ripen later. We use Seckels to make our roasted pear sauce (recipe found on our website). It's wonderful. Very productive annual-bearing large tree, easy to grow. The most reliably bearing pear we have in our home orchard. Scab and fireblight resistant. Z4. **ME Grown.**

***286A** Seckel Pear, $38.00*

Vicar of Winkfield Winter. A wild seedling found in the woods of Villiers-en-Brenne, France, 1760. Large pear with greenish-yellow skin, a faint brownish-red blush and some russeting. Dry flesh has a strong musky aroma and is best for cooking or possibly in perry. Excellent keeper. Ours has a lovely spreading habit with elegant swirling branches. Very old and rare in the trade. Named for the Reverend Rham of Winkfield who brought the variety to England. Z4. **ME Grown.**

***288A** Vicar of Winkfield Pear, $38.00*

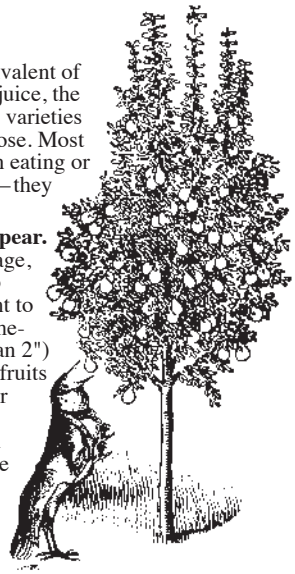
Winter Nelis Winter. Seedling pear from Belgium, early 19th c. Brought to the U.S. from England in 1823. Medium-sized short roundish-conic-pyriform shape. Cinnamon-colored russet almost fully covers the thick green skin, turning yellow when fully ripe. The flesh is slightly green, fine textured, flavorful, juicy, sweet and aromatic. Fruit can remain on the tree through leaf fall in late autumn. Highly regarded as a late-season storage pear by Victorian gardeners, and achieving popularity in the mid-20th c. as an export crop from warmer markets in California, Australia and New Zealand. Z4. **ME Grown.**



***289A** Winter Nelis Pear, $38.00*

Perry Pears

Perry is fermented pear juice—the pear equivalent of hard cider. While you can ferment any pear juice, the best perry is made from small dry astringent varieties selected over the centuries just for that purpose. Most of these perry pears are not suitable for fresh eating or cooking. These trees are a good investment—they should live to be about 300 years old.



Butt Late Fall. **Bittersharp English perry pear.** Unknown origin, possibly from Norton Village, Gloucestershire, England, before 1886. Also known as **Norton Butt**. Everything you want to produce the perfect perry. Bittersharp with medium acidity and high tannin. Small (less than 2") yellow-green turbinate or roundish-obovate fruits ripen late. The old saying goes: "Gather your Butts one year, mill them the next and drink the year after." You pick them in the late fall this year, press them in January and drink the perry the year after that. Best blended with Blakeney Red (which we've offered in the past) and other perry pears. Z4. **ME Grown.**

***298A** Butt Perry Pear, $38.00*

Hendre Huffcap Fall. **Sweet English perry pear.** Also called **Lumberscull**. Probably originated near the villages of Bromsberrow and Haresfield in Gloucestershire, England, before 1900. Sweet and astringent, with low acidity and low tannin. Perry-maker Charles Martell calls it "one of the very best vintage varieties of perry pear with all the most desirable orchard properties." Small (2" or less) roundish fruit is yellowish-green, partly russeted and orange-blushed. Z4.

***300A** Hendre Huffcap Perry Pear, $38.00*

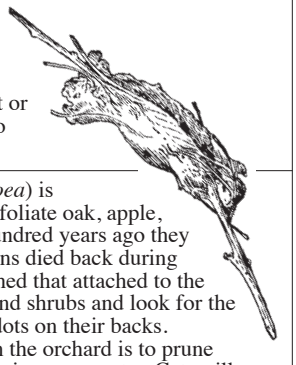
Winnals Longdon Fall. **Medium bittersharp English perry pear.** Weston-under-Penyard, Herefordshire, circa 1790. Herefordshire-based and world-renowned perry-maker Tom Oliver's favorite variety, which he described in *The Book of Pears* as having enough tannin and acidity to make a "bold, single variety perry." Low tannins and moderate acid levels. Yellow-green and heavily blushed red with some russeting. May bear every year if it feels like it, otherwise every other year. Z4.

***301A** Winnals Longdon Perry Pear, $38.00*

Yellow Huffcap Fall. **Ancient sharp English perry pear.** Possibly originated on or near the Chandos Farm in Much Marcle in the 17th c. Many synonyms including **Chandos Huffcap**, **King's Arms**, **Uffcap**, **Uffcup**, and **Yellow Longdon**. Sharp and astringent with high acidity and medium tannin. Craig Campbell of Tieton Cider Works in Yakima, WA, says Yellow Huffcap makes their best perry. Small (less than 2") oval yellow-green russeted fruit with slightly yellow flesh. Z4.

***302A** Yellow Huffcap Perry Pear, $38.00*

Vigilance in the Orchard!



If a plant seems mostly healthy and is growing, we take a do-nothing approach to aesthetic issues—there is always something chewing on this or that. Follow the growing instructions in the back of this catalog to head off the most common issues, such as the dreaded apple borer.

However, there are a few more serious issues worth educating yourself about so you can respond quickly and prevent or reduce their impacts. As the climate changes, fireblight and browntail moth caterpillars have become major challenges to orchards in Maine. We're having success controlling these plagues without chemicals. Don't lose heart!

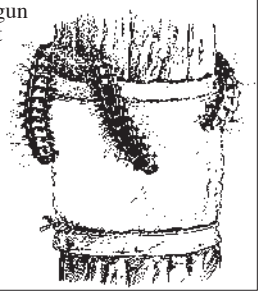
Fireblight bacterium (*Erwinia amylovora*) has been around for a long time and has been managed by culling out affected limbs and trees. It's taken off more rapidly in recent years. Symptoms include blackening blossoms, sudden wilting of young shoots, and sunken cankers on the stems. Watch out for the classic "shepherd's hook" wilting at branch tips. All plants in the Rose family are susceptible; this includes apples and pears. Wet or warm humid weather during blossoming increases its spread. Left unchecked, fireblight can kill the tree. If you are vigilant, you can prevent it from going systemic by following these tips:

- Promptly cull out symptomatic branches. Cut aggressively, 16–18" back to healthy green tissue. Burn infected branches.
- Sanitize your tools with rubbing alcohol.
- Don't prune when the canopy is wet; wait for a stretch of dry days so the cuts can dry out before any chance of reinfection.
- Feeding young trees too much nitrogen causes excessive growth and can make them more susceptible.
- Don't spray streptomycin, which has led to widespread resistance to the antibiotic.

More info: extension.unh.edu/resource/fire-blight-fact-sheet

Browntail moth (*Euproctis chrysorrhoea*) is spreading in Maine. The caterpillars defoliate oak, apple, pear, cherry, juneberry and others. A hundred years ago they wreaked havoc in Maine, but populations died back during wet cold springs when a fungus flourished that attached to the caterpillar. Keep an eye on your trees and shrubs and look for the ravenous caterpillars with two orange dots on their backs.

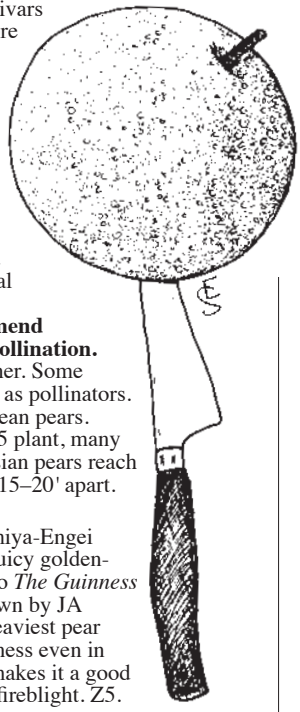
The best way to control browntail in the orchard is to prune out nests and either burn or drown them in soapy water. Caterpillars build their messy nests at branch tips—these are best spotted in winter and look like leaves that haven't fallen off the tree. Staff at the Maine Heritage Orchard (see page 14) pruned out the nests within reach in the orchards, and then used a shotgun to blast out nests up higher in the oaks. Not the most elegant solution, but it worked!



More info: maine.gov/dacf/mfs/forest_health/invasive_threats/browntail_moth_info.htm

The Maine Forest Service is tracking caterpillars infected with the fungus that helps control their population. If you find caterpillars with a swollen appearance and a whitish-yellowish dust, report it here: surveymonkey.com/r/9VKYFLV

Asian Pears *Pyrus pyrifolia*



There are thousands of named Asian pear cultivars in China, where they have been grown for more than 2000 years. They bear young and are long-lived. Asian pears differ from European pears: they are crisper and very juicy, sweet and mild with a nutty background, and are roundish in shape. Because they set heavily, thin the crop once or even twice during the first two months after bloom to ensure large fruit. Leave about one fruit per spur. Unlike European pears, they should be tree-ripened. When the seeds are black, the pears are ready. They ripen in late summer and keep for several weeks with refrigeration.

Although partly self-fruitful, we recommend planting more than one variety for better pollination. The varieties we offer will pollinate one another. Some European pears, notably Bartlett, will also act as pollinators.

Cultural requirements are similar to European pears. Although they are usually considered a Zone 5 plant, many of us in Zone 4 are having bountiful crops. Asian pears reach approximately 15–20' at maturity. Plant trees 15–20' apart. (2½-6' trees)

Atago Fall. Nijisseiki x Imamura Aki. Ninomiya-Engei Testing Center intro, 1928. Very large sweet juicy golden-brown pear with a claim to fame. According to *The Guinness Book of World Records* in 2011, an Atago grown by JA Aichi Toyota Nashi Bukai in Japan was the heaviest pear in the world at 6 lbs 8 oz. Will develop sweetness even in cooler summer weather. Long bloom period makes it a good pollinator for other pears. Good resistance to fireblight. Z5.

***305A** Atago Asian Pear, $38.00*

Hosui Late Summer. Ri-14 (Kikusui x Yakumo) x Yakumo. Nat'l Hort Res Stn, Tsukuba, Japan, 1972. Firm crisp fine-textured juicy mild subacid yet sweet rich-flavored white to off-white flesh is considered by some to be the best-flavored of all Asian pears. Large round-oblate long-stemmed fruit with medium-thick skin covered with glowing yellow-orange-golden brown russet and numerous light-russet dots. Standard commercial variety. Will store for a month. Hosui means 'much water.' Medium-sized very vigorous productive tree. Susceptible to fireblight. Z4/5.

***306A** Hosui Asian Pear, $38.00*

Olympic Fall. Chojuro x *P. ussuriensis*. Chungsil, Korea, 1969. Also called **Dan Bae** and **Korean Giant**. Very large brown-green-orange russeted fruit weighing up to a pound or more, with sweet firm crisp coarse juicy white flesh. Hardy but requires a long growing season, ripening in the fall. May not mature in colder areas. Keeps in the root cellar until spring. Upright spreading productive precocious tree. May have some tolerance to fireblight. Z5.

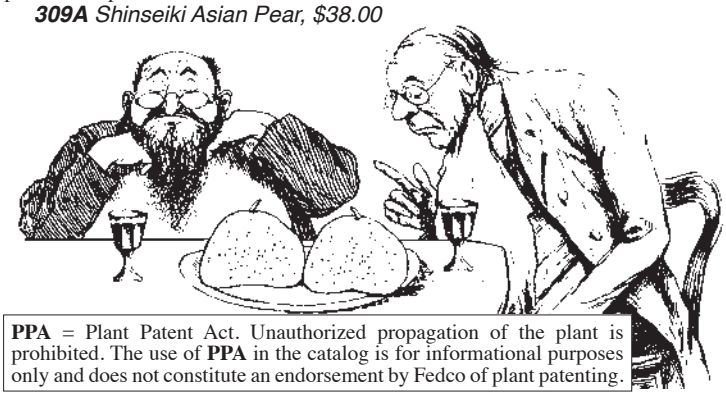
***307A** Olympic Asian Pear, $38.00*

Shinko Fall. Nijisseiki seedling, Japan, 1941. Yellowish flesh is sweet, crisp and juicy, with very good flavor. Medium-large lumpy round brownish russeted fruit ripens late and stores up to 3 months. *Shinko* means 'new success' in Japanese. Moderately vigorous precocious annually bearing tree. Fireblight resistant. Z4/5.

***308A** Shinko Asian Pear, $38.00*

Shinseiki Late Summer. Nijisseiki x Chojuro. Teiji Ishikawa intro, Okayama Prefecture Ag Exp Stn, Japan, 1945. White flesh is crisp, sweet and mildly tart with lots of juice. Medium-sized round-oblate light to medium-bright yellow fruit, with little to no russeting. *Shinseiki* means 'new century.' Keeps about 3 months in storage. Dense spreading precocious productive tree. Disease resistant. Z4/5.

***309A** Shinseiki Asian Pear, $38.00*



PPA = Plant Patent Act. Unauthorized propagation of the plant is prohibited. The use of **PPA** in the catalog is for informational purposes only and does not constitute an endorsement by Fedco of plant patenting.

Stone Fruits *Prunus* spp.

Widely cultivated around the world and adaptable to most of New England. Not highly particular as to soils. Clingstone means the fruit's flesh sticks to the pit (or stone) and a freestone pit drops away from the flesh.

Like our apples and pears, all our stone fruits are grafted trees.

Sweet Cherries *P. avium*

Generally grow into large trees although the flowers are tender and fruiting can be iffy in central Maine and north. We are testing some of the hardiest varieties and hope to have more available in coming years. **Most sweet cherries need a second variety for pollination.** See descriptions for pollination requirements. We recommend planting two or more varieties for best results. Mature trees reach 25–30' tall. Space trees 25' apart. (2½-6' grafted trees)

Attika Late Summer. A chance seedling of unknown parentage. RPIB, Holouvosy, Czech Republic, 1981. Also called **Kordia**. Dark large heart-shaped firm fruit has a strong sweet flavor. Long green attractive stems. Resistant to cracking. Ripens about two weeks later than Bing. Widely distributed around the world but not found commercially due to lower crop weights compared to other varieties. Excellent for the home garden and collector. New to our trials. Let us know how it does for you! Flowers can be sensitive to late frost. Pollination requirements uncertain: **plant a second variety for good yields.** Z5.

***311A** Attika Sweet Cherry, $38.50*

Benton Summer. PC7146-8 Stella x Beaulieu. WSU, 2003. Highly flavorful large firm deep red cherry resembles Bing. Neighbors reported that the first three cherries on their little tree last summer had a sweet chin-dripping heavenly flavor that made them think of little plums dressed up in cherry suits. Less susceptible to cracking than other varieties. Flowers almost a week later than other sweet cherries, potentially missing late frosts. Vigorous upright and spreading growth. **Self-pollinating.** We can't promise hardiness, but if you think you have a good spot for a sweet cherry, it might be worth a shot. Keep us posted! **PPA** (expires in 2023)**.** Z5.

***312A** Benton Sweet Cherry, $38.50*

The Sweet and the Sour

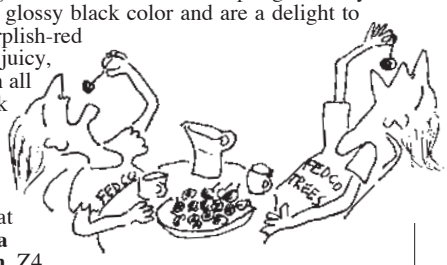
Cherries and humans have been keeping company longer than we've been keeping time. The pits of various species have been found throughout Europe in early Bronze Age caves and lake dwellings. The Greeks first cultivated them around 3000 years ago. Giresun, a province in Turkey formerly known as Cerasus, or Kerasous to the Greeks, is the cherry's namesake.

Prunus avium (sweet cherry) is the progenitor of most of the world's cherry cultivars. *Prunus cerasus* (sour or pie cherry) derived from a cross between *P. avium* and *P. fruticosa*, a shrub cherry that grows across a wide region from Germany to Siberia, from the Baltic Sea to the Black Sea. The resulting hybrid *P. cerasus* stabilized over time and is now considered its own species.

Able to adapt to a range of soils and conditions, cherries dispersed across a temperate swath of the world with the help of humans and birds. Colonists brought both types to their orchards, the pie cherry being more successful in the northern regions of the U.S. Cherries became naturalized in parts of the U.S., Canada, Japan and New Zealand and have become an international fruit. Popular across the Middle East and Eastern Europe, cherries are the national fruit of Ukraine where hundreds of varieties are in circulation and the commercial market was booming until recently.

Packed with nutrients and antioxidants, the medicinal benefits of cherries include improvement of blood sugar issues, cognitive function, stress and muscle repair. They have high amounts of melatonin to aid with sleep. The anthocyanins in sour cherries help reduce inflammation. The uninitiated may consider sour cherries as suitable only for pies, but these little jewels are celebrated in far more ways than you can imagine. In Eastern Europe cherries are traditionally pickled in a sweet and sour brine with spices like cinnamon and nutmeg and used on salads or served with meat. In the Czech Republic, a traditional sponge cake called *bublanina* is made with cherries or whatever fruit is in season. In Ukraine, *varenyky* is a dumpling sometimes filled with sour cherries.

Black Tartarian Early Summer. Originated in North Caucasus of southwestern Russia and brought to England in 1794, landed in U.S. markets in 1848. In *Cherries of New York 1914*: "… tempting to the eye through their rotund form and glossy black color and are a delight to the palate, the handsome purplish-red flesh being firm and crisp, yet juicy, with a sweet, rich flavor which all agree gives the quality the rank of 'very good to best.'" Once widely distributed in home gardens around the world, it fell out of favor commercially for thicker-skinned varieties that were easier to ship. **Requires a second variety for pollination.** Z4.



***313A** Black Tartarian Sweet Cherry, $38.50*

BlackPearl Early summer. NY 8139. Cornell, NY. Firm large fruit with red-black skin and deep red sweet flesh. The earliest ripening of the Pearl Series cherries developed at Cornell. Heavy bearer. Fruit tree specialist Jon Clements at the Cooperative Extension U of Mass called it the best in the Pearl series, with decent crops most years. Resistant to cracking. **Requires a second variety for pollination.** Z5.

***314A** BlackPearl Sweet Cherry, $38.50*

Lapins Summer. Van x Stella. Summerland Res & Dev Ctr, BC, Canada, 1983. Large sweet high-quality black-mahogany-red–skinned fruit. Ripens a week after the popular variety Stella, by mid-July in warmer districts. Very vigorous, productive and upright; crops consistently in central Maine. **Self-pollinating**, but benefits from planting with another variety. Z4/5.

***315A** Lapins Sweet Cherry, $38.50*

Rainier Summer. Wash. P1-680 (Bing x Van) Harold W. Fogel intro, WA Ag Exp Stn and USDA, 1960. Classic dessert cherry. Very large fruit, light yellow skin with red blush. Firm fine-textured flesh with a distinct delicious flavor. Colorless juice. Good fresh or canned. Quite resistant to cracking. Ripens midsummer. Vigorous productive tree. Early to come into bearing. **Requires a second variety for pollination.** Z4/5. **Indigenous Royalties.**

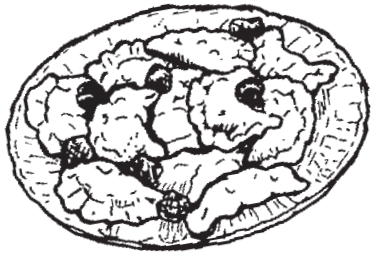
***317A** Rainier Sweet Cherry, $38.50*

Skeena Late Summer. 2N-60-7 (Van x Stella) x 2N-38-22 (Bing x Stella). Summerland Res & Dev Ctr, BC, Canada, 1984. High-quality firm large round dark red-black skin and deep red flesh, sweet with a sharp balance to the flavor. Can become a bit soft after several hot days but is resistant to cracking. Ripens about two weeks after Van (which we've offered in the past). **Self-pollinating** like its parent Stella and produces consistent yields even as a lone tree. Will pollinate other cherries. Z4/5.

***318A** Skeena Sweet Cherry, $38.50*

Varenyky, or Ukrainian Sour Cherry Dumplings

This recipe comes from Anna Voloshyna. Her recipes, based in Eastern European cooking traditions, can be found at annavoloshyna.com.



3 cups all-purpose flour, plus more for dusting
1 tsp salt
1 large egg
1 egg yolk
1 T vegetable oil
3/4 cup water
1 lb pitted sour cherries (if frozen, thaw them)
2 T sugar, divided
1 T corn starch

For serving:
2 T butter
2 T sugar

In a large bowl mix flour, salt, egg, and egg yolk, water, and oil, until the dough starts coming together. Lightly sprinkle the working surface with some flour and transfer the dough. Knead for 5 minutes, until smooth. Wrap it in plastic and let rest for 20 minutes.

Mix cherries with 1 T sugar and corn starch. Set aside.

Divide the dough into 2 equal parts and roll into a large 1/8" thick circle. Using a 3" round cookie cutter, or a simple glass, cut circles of dough. Repeat with the other half of the dough and scraps.

Place 2 cherries on each round of dough. Gently fold the dough over, forming a pocket around the filling. Pinch the edges to seal.

Bring a pot of water to a rolling boil, add 1 T sugar. Drop varenyky into boiling water and stir with a spoon to prevent them from sticking together. Cook for about 5 minutes; when varenyky float, they're done.

Using a slotted spoon or small mesh strainer, fish the varenyky out and place them in a bowl or deep plate. Add a small pat of butter and gently toss to prevent them from sticking together. Sprinkle with sugar.

Pie Cherries *P. cerasus*

Also called **Sour Cherries**. Delicious enough to eat right off the tree and especially good in pies. They fruit in early to midsummer and don't mind heavy soil. Pie cherries are generally divided into two groups: **Morello** types have dark red spherical fruit, dark juice and relatively small compact trees. **Montmorency** (or Amarelle) types have light red slightly flattened fruit, clear juice and medium-sized somewhat open trees.

Pie cherries are significantly hardier than sweet cherries but flower buds may be damaged in colder winters. We often encounter excellent crops in central Maine. **Pie cherries are self-pollinating, and do not require another variety for pollination.** Mature trees reach 10–15' tall. Plant 15–20' apart. (2½-6' grafted trees)

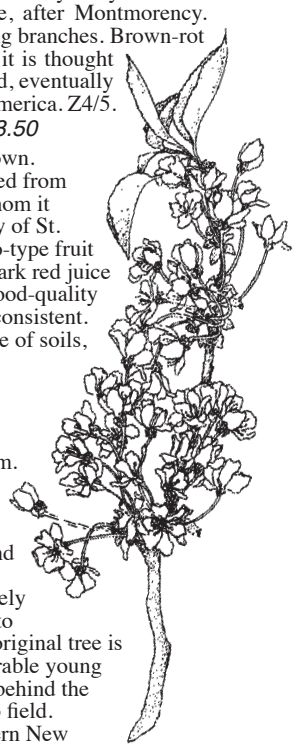
English Morello Summer. Netherlands or Germany, before 1860 Sometimes called **Grosse Cerise à Ratafia**, **Grosse Lang Lothkirsche**, **Griotte du Nord**, **Morris** and **Colorado Morello**. Excellent culinary cherry, recommended for pies and all other cookery. Very dark red-black skin. Dark red flesh and juice. Ripens late, after Montmorency. Distinctive small roundish tree with drooping branches. Brown-rot resistant. Despite the name we know it by, it is thought to have originated on the European mainland, eventually finding its way to England and then North America. Z4/5.

***322A** English Morello Pie Cherry, $38.50*

Evans Mid-Late Summer. Parentage unknown. Edmonton, Alberta. Also called **Bali**. Rescued from obscurity in 1976 by Dr. Ieuan Evans for whom it was named. Popularized by Bill MacKentley of St. Lawrence Nurseries. Large crops of Morello-type fruit are excellent for eating, jams, jellies, pies, dark red juice and wine. Can be very hardy and produce good-quality fruit, but our results in Zone 3 have been inconsistent. Naturally dwarf tree, tolerant of a wide range of soils, although prefers light fertile soils. Z3/4.

***323A** Evans Pie Cherry, $38.50*

Garfield Plantation Summer. Garfield Plantation, ME. Heirloom pie cherry grown for generations on an Aroostook County farm. One of our most promising finds in our search for varieties that really produce well in the Northeast. In the spring of '09, Garfield trees in northern Maine flowered and fruited after –44°! Bright red fruit is similar to Montmorency. Hardy, productive, extremely long-lived, and proving to be very resistant to disease in our northern trials. Although the original tree is long gone, it lives on in the form of innumerable young trees that have suckered up to 100' or more behind the farm along the edge of the ubiquitous potato field. Recommended for trial in all areas of northern New England. Z3. **ME Grown.** *Supply limited—order early!*

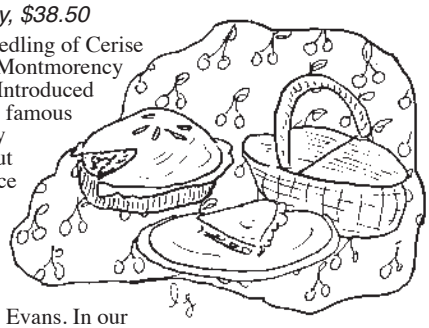


***324A** Garfield Plantation Pie Cherry, $38.50*

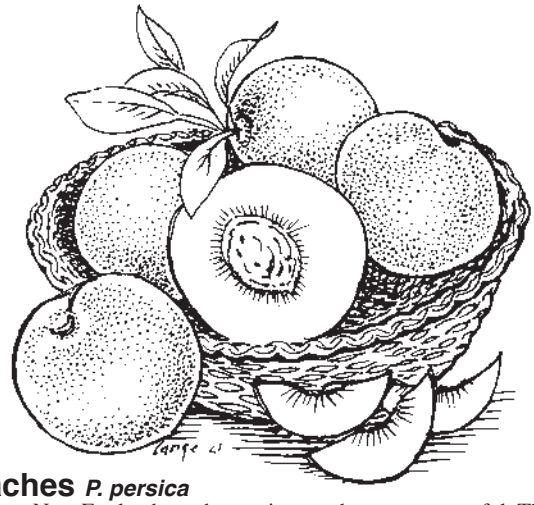
Meteor Summer. MN 66 (Montmorency x Vladimir) U Minn, 1952. Bright scarlet roundish-oval fruit. Translucent bright yellow flesh and clear juice. Mildly acid flavor. Very good eating right off the tree. Also good for pies, canning and freezing. Easy to pit. Excellent dried. Has proven to be a consistent producer in some locations but susceptible to brown rot in others. In coldest districts cropping has been inconsistent and hardiness questionable. In our Aroostook County test orchard, trees died to the ground after temperatures of –38°: not as hardy as Garfield Plantation. However, we still recommend it from central Maine south, Zones 4–6, where some growers are having great success with Meteor. Ripens mid-July in central Maine. Z4.

***325A** Meteor Pie Cherry, $38.50*

Montmorency Summer. Seedling of Cerise Hâtive or Cerise Commune. Montmorency Valley, France, before 1600. Introduced to the U.S. c. 1830. The most famous of all pie cherries. Not widely grown in Europe or Russia but long the standard of excellence in the U.S. Aromatic firm-fleshed bright red fruit makes a clear light pink juice and is a favorite for processing. Surprisingly hardy, though not as hardy as Evans. In our Aroostook County test orchard, trees fare better than Meteor. Should do really well from central Maine south. Appears to be resistant to brown rot. Vigorous productive medium-sized upright-spreading tree tolerates a variety of soils. Z3/4.



***326A** Montmorency Pie Cherry, $38.50*



Peaches *P. persica*

Northern New England peach growing can be very successful. The trees often bear so heavily that the fruit needs thinning and the branches need support. Some winters can be hard on peach trees, and they may die. Other trees live for many years. Replant and try again. They are worth the trouble, and since they bear young, you won't have to wait too long!

Peaches are usually unaffected by pests or diseases in northern areas, the occasional exception being **peach leaf curl**. PLC is not a fatal problem but does need to be controlled if you get hit with it. Look for crinkled or puckered foliage in spring. Remove affected leaves and compost them. Spray the tree with lime, sulfur or copper early the following spring while it is still dormant (before any buds open!) Onion, garlic or horsetail spray while leafed-out may also be effective. It's common for peaches to have black gummy wounds. This is usually harmless and happens from any environmental stress, even when a bird or a bug looks sideways at the tree.

Peach trees are self-pollinating; they do not need a second tree for pollination. Mature trees will be 10–15' tall; plant 20' apart. (3-6' trees)

Contender Late. NCT 544 (Winblo x complex parentage of North Carolina selections) DJ Werner, JR Ballington and DF Ritchie intro, Ag Exp Stn, Raleigh, NC, 1988. Extend your peach season with this high-quality variety that is proving to be hardy in northern Maine. Large round bright red and yellow freestone fruit with a slightly raised suture. Firm melting aromatic yellow flesh. Growth habit similar to Redhaven, but fruit ripens 3 weeks later. Resistant to leaf spot. Because it blooms quite late, it might escape late spring frosts. Z4 maybe Z3.

***331A** Contender Peach, $37.00*

Madison Late. Ideal x Redhaven. VA Stn, 1963. A fine peach for the North, with hardiness similar to Redhaven but ripening 3 weeks later, around the time of the Common Ground Country Fair. Medium-large fruit with bright orange skin and bright red blush. Orange-yellow firm fine-textured juicy flesh with excellent very sweet rich peach flavor. Skin peels easily. Freestone, excellent canner. Very productive. Exceptional tolerance to blossom-season frost. A Fedco favorite! Z4.

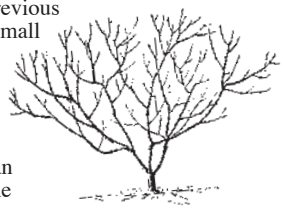
***332A** Madison Peach, $37.00*

Redhaven Early-Mid. Halehaven x Kalhaven. MI Ag Exp Stn, 1940. Medium-sized round fruit with beautiful red and golden-yellow skin and sweet firm fine-textured yellow flesh. Non-browning. Excellent for eating, freezing, canning, shipping. Countless Fedco customers call this their favorite peach; also the world's most widely planted freestone peach. Hardy buds; trees have produced crops in southern Aroostook County orchards. Vigorous highly productive disease-resistant spreading trees are tolerant to bacterial spot. Z4.

***333A** Redhaven Peach, $37.00*

Pruning Peaches

Prune peach trees in spring after the buds begin to swell and show pink. Remove dead and inward-growing branches. Make a few bold cuts to bring main branches closer to the trunk. Peach trees grow vigorously each year and fruit on the previous year's wood. The goal is to keep trees small and open; leggy branches will break from the weight of the crop. After cutting back any main branches, thin last year's shoots and cut them back to about 12–18". When you're done, the tree shape should look something like an open hand reaching for a peach, with the tree not much taller than 10' or so.



Reliance Early-Mid. Open-pollinated seedling of Minn PHO 4559 x Meredith. NH Ag Exp Stn, 1964. Considered the hardiest peach. Medium-sized, roundish, freestone. Rather dull red blush over greenish yellow. Bright yellow flesh, soft and juicy. Flavor usually considered fair, but we love it in Maine for its unfailingly reliable crops. Often produces large crops. Bears at an early age. May have some resistance to peach leaf curl. Z4 and pockets of Z3.

***334A** Reliance Peach, $37.00*

Saturn Early-Mid. NJF2 (NJ602903 x Pallas) Rutgers NJ Ag Exp Stn intro, 1985. From a category called Peento peaches, doughnut peaches or UFO peaches because they are flat! Looks like it came from the other side of the galaxy. Descended from the wild disc-shaped *pan tao* peaches in China. Once thought to be heavenly fruits that would bestow immortality on those who tasted their flesh. Saturn is bred for bud cold-hardiness while maintaining the *pan tao*'s legendary sweet aromatic peachy deliciousness. Red blush over a creamy green background. White flesh and semi-freestone. Yields a heavy crop. Ripens around the same time as Redhaven. Resistant to leaf spot. Z5, but currently testing hardiness in Z4. We'll keep you posted.

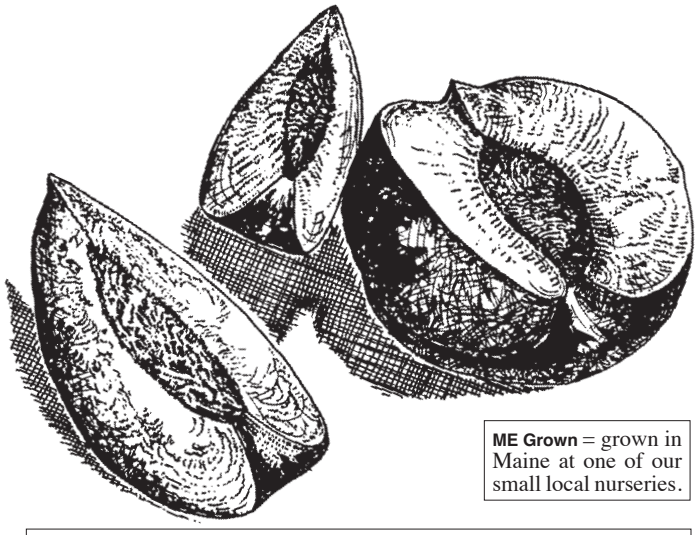
***335A** Saturn Peach, $37.00*

Veteran Mid-Late. Ont-1940208 (Vaughan x Early Elberta) Vineland Stn, Ontario, 1928. Soft yellow melting semi-freestone flesh of good quality. Vigorous, reliable and productive. Medium-large fruit is mostly yellow-skinned with a flash of red. Not so much a fresh-eating peach, but has gained a reputation as an excellent canner. Peels easily and tastes like August in a jar. "Cuz the canned goods that I buy at the store/ Ain't got the summer in 'em anymore." Ripens 3–4 weeks after Redhaven, about canning time. Hardy enough for most New England peach-growing yards. Z4/5.

***336A** Veteran Peach, $37.00*

White Lady Early. Zaiger's Genetics, Modesto, CA, 1986. Medium-to-large attractive red peach has white flesh that is juicy, firm and sweeter than most white-fleshed peaches. Freestone. Considered excellent for fresh eating but also keeps a bit longer than some peaches and holds up well canned or baked in dessert. Popular with commercial orchardists. Don't be fooled by the name of the developer. Floyd Zaiger of Zaiger's Genetics pollinated all of his trees by hand (no GMO) and was considered to be one of the most important breeders of hybrid stone fruits. He and his family introduced 420 fruits and nuts, including the Pluot, over six decades. Z4.

***337A** White Lady Peach, $37.00*



ME Grown = grown in Maine at one of our small local nurseries.

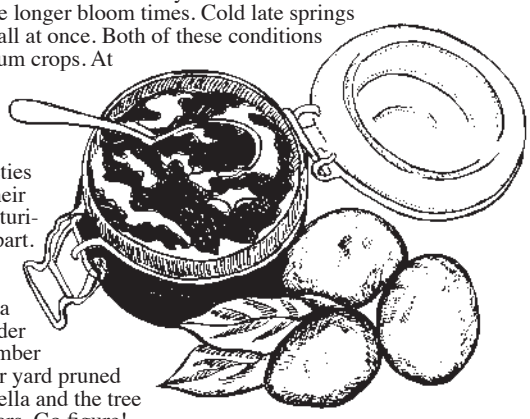
Relative ripening dates

Although our catalog focuses on woody plants that do well in the northeast, we have customers all over the U.S.— up along the Canadian border, in the mid-Atlantic states, down in the mountains of North Carolina and out west in the high desert—anywhere hardiness is important. We love having customers so spread out, but it's not easy to tell when a variety will ripen in every far-flung orchard. A fruit that ripens in September in northern Maine might ripen a month earlier in Pennsylvania. Ripening dates also vary from year to year depending on conditions. Not only that, the fruit might be exquisite up north but rather blah farther south. That's the nature of these varieties, and it's part of why we offer a wide selection. We think you'll find varieties that can thrive in your area.

Hybrid Plums *Prunus* spp.

Extremely hardy crosses between various Asian and American species; may fruit even after severe winters.

Hybrid plums require a second variety for pollination. Hybrid plum fruiting can be inconsistent but they are worth the trouble! Warmer areas will see longer bloom times. Cold late springs may force blooming all at once. Both of these conditions can be optimal for plum crops. At other times, it can be a little hit or miss.



To maximize pollination, plant at least 4 different varieties close enough to let their branches touch at maturity—around 15–20' apart. Planting about 10' apart can work, too, if you want to create a plum thicket of a wilder style. One Fedco member has a lone Toka in her yard pruned to a minimalist umbrella and the tree fruits wildly most years. Go figure!

At maturity, hybrid plums are roughly 15–20' tall.

Bloom times are similar for all the varieties we offer. We offer American Plum Seedlings because they are one of the best pollinators for all varieties.

Hybrid plums are less susceptible to black knot than European plums and have few issues other than Japanese beetle and plum curculio attraction. (3-6' trees)

American Plum Seedling *P. americana* 15-20' Not a hybrid, but included here since it may be the best pollinator for hybrid plums. Seedling plum that grows in thickets and produces very decent red, yellow and orange 1" fruit, suitable for fresh eating, canning and freezing. Spectacular white bloom in spring is highly ornamental. Red fall color. Plant singly as a graceful specimen, or let the branches intertwine with other plums for maximum pollination, with one American plum for every 3–4 hybrid trees. Tends to sucker freely. This tree stock is significantly larger than plum seedling rootstock (see page 39). Extremely hardy. Z3. **ME Grown.**

***341A** American Plum Seedling, $24.00*

Black Ice Midsummer. *P.* Lydecker [*P. besseyi* x (*P. salicina* Oka x *P. sal*. Z's Blue Giant)] U of WI, River Falls, 2006. Large 2" round early-ripening high-quality hardy blue-black dessert plum. Very sweet juicy reddish-purple semi-freestone flesh. Precocious and productive tree with a naturally compact growth habit. Bred by Brian Smith, whom we visited on a fruit exploration trip in the Upper Midwest. He graciously showed us around his amazing nursery in River Falls, WI. He was growing many of his plums in huge tubs, manipulating bloom time using greenhouses and coolers. This enabled him to cross species or varieties that would never normally flower together. The literature recommends Toka or La Crescent as a pollinator. **PPA** (expires in 2024). Z3. **ME Grown.**

***342A** Black Ice Plum, $37.75*

Ember Late Summer. MN 83 (*P. sal*. Shiro x *P. a*. South Dakota #33) U Minn, 1936. Medium-sized roundish-conic slightly pointed mostly red-blushed plum with a medium bloom. Tastes and looks like an apricot. Rich yellow juicy sweet flesh is very firm and meaty but tender. Recommended for cooking and fresh eating. Low spreading vigorous tree. Rare in the trade. Z3. **ME Grown.**

***343A** Ember Plum, $37.75*

Plum Curculio... and garlic

Plum curculio is a small pesky insect, a terrible plum and apple pest. We have read that laying sheets of cardboard under plum (and apple) trees will smother the pupae developing in the soil. Many organic growers spray Surround clay powder on their trees to combat this weevil. (See our **Seeds & Supplies catalog**, or fedcoseeds.com/ogs, for this and more orcharding supplies.)

Many years ago we planted garlic near one of our apple trees and neglected to harvest all the bulbs. Now we have a small colony of garlic plants around the tree. Recent reports are touting garlic as a curculio deterrent. Anecdotal evidence suggests it may be working at our place. Plant more garlic!

Kahinta Mid-Late Summer. Luther Burbank's *P. sal*. Apple x *P. a*. Terry. SD, 1912. Another intro by plant breeder NE Hansen. Large 1 1/2" roundish slightly pointed fruit is flattened at the stem end. Brilliant red-purple tart skin and translucent yellow-orange tart but quite flavorful flesh. Easy to peel; peeled fruit looks like a peeled tangerine. Or you can bite a small hole in the skin and suck out the juicy flesh. Clingstone. Very good for fresh eating or canning. Medium-sized spreading tree. Kept pruned, our old tree remains about 8' tall. Bears more reliably than most other varieties in our orchard. *Kahinta* is the Sioux word for 'sweep.' Rare. Z3. **ME Grown. Indigenous Royalties.**

***344A** Kahinta Plum, $37.75*

La Crescent Late Summer. *P. sal*. Shiro x *P. a*. Howard Yellow. U Minn, 1923. Also known as **Golden La Crescent** or **Golden Minnesota**. Most of the hybrid plum varieties are colored with some variation of red and orange with a little purple tossed in. Yellow-skinned La Crescent is one notable exception. The beautiful roundish tender thin-skinned yellow fruit is sometimes blushed with a little pink. Tender yellow juicy flesh of excellent quality is sweet, aromatic and suggestive of apricots. Freestone. Upright spreading vigorous tree. Z3/4. **ME Grown.**

***345A** La Crescent Plum, $37.75*

Lavina Mid-Late Summer. *P. cerasifera* x *P. salicina*. Developed in Lithuania, early 2000s. May also be known as **Avalanche**. Rare variety in the trade. Stunning golden-yellow skin is blushed dark red to pink when fully ripe—one of the most attractive plums in the orchard with fruit weighing in at just over an ounce. Amber flesh is meaty with unusual flavor notes of papaya and caramel. Ripens in mid-late September in central Maine. Seems to bloom around the same time as Toka. Grower Jesse Stevens' grafts survived a cold snap of –26˚ with only minor dieback. Highly vigorous growth. Semi-freestone and crack resistant. Z4. **ME Grown.**

***346A** Lavina Plum, $37.75*

Obilinya Midsummer. Unknown parentage. Purple-red fruit with yellow-bleeding-to-red firm flesh. Grower Jesse Stevens says it has "skin less sour than many other hybrids, but still a good amount of zing." Seems plenty hardy once established with good pest and disease resistance. Blooms early and pairs well for pollination with Lavina and Purple Heart. Ripens mid-August in central Maine. Highmoor Farm, UMaine's Ag Experiment Station, gives it an overall rating of "excellent!" Z4/5. **ME Grown.**

***347A** Obilinya Plum, $37.75*

Pembina Early Summer. *P. sal*. Red June x *P. n*. Assiniboine. NE Hansen intro, SD Exp Stn, 1923. Large pointy bright red half-freestone fruit with bluish bloom. Dark golden-orange flesh is firm and apricot flavored. One of the first of the hybrids to ripen in summer, about the same time or a bit earlier than Underwood and well before the bulk of the plum crop. Z3/4. **ME Grown. Indigenous Royalties.**

***349A** Pembina Plum, $37.75*

Pipestone Late Summer. MN 218 [*P. sal*. Burbank x (*P. sal*. x *P. a*. Wolf)] U Minn, 1942. Juicy yellow-fleshed clingstone plum with excellent sweet flavor. Tough yet thin skin peels easily. Large deep red fruit with a golden blush presumably named in honor of the beautiful red catlinite rock of Pipestone, MN, a sacred site to First Nations people. Vigorous reliable hardy tree. Z3. **ME Grown. Indigenous Royalties.**

***350A** Pipestone Plum, $37.75*

Indigenous Royalties

A few years ago, Fedco began to pay a portion of our seed sales of certain varieties—like Hopi Blue corn and Jacob's Cattle bean—to Nibezun, a Wabanaki project here in Maine that is working to rematriate Penobscot land and to create dialogue on healing throughout the extended community (nibezun.org). Our Indigenous Royalties program is one small way to appreciate and recognize the native breeders and seed keepers whose varieties continue to sustain us here on Turtle Island.

We extended the program to our Trees catalog by paying royalties on any plant that bears a Native American name. We recognize that Waneta plum, for example, was given a Sioux name by a white person. These plants were likely named without permission. While this practice continues in the nursery trade, it is not something we embrace. At the same time, we can appreciate a plant as an innocent third party, holding merit in our landscape.

Long before breeding stations and universities, there were Tree Seed Keepers. Many of our named cultivars likely carry the genetics of the old trees tended long before European arrival. Where you see **Indigenous Royalties** at the end of our description, you will know we are dedicating 10% of sales of these plants to Nibezun. Last year's Trees royalties came to $5,563.33.

More Hybrid Plums

Purple Heart Late Summer. Elwyn Meader intro, Enfield, NH, 1968. Medium-sized clingstone fruit with red-purple skin and flesh. Some say the most delicious plum we offer. Meaty, mild and rich with no astringency. It's wonderful. Origins shrouded in mystery. It was brought to the great plant breeder Professor Elwyn Meader by a fellow who passed away before Meader could ascertain the plum's origin. We planted ours next to Black Ice: both are fruiting well. Underwood also may be a good pollinator. Not as hardy as other hybrids. May show tip damage following colder winters in central Maine, some susceptibility to black knot. Z4/5. **ME Grown.**

***351A** Purple Heart Plum, $37.75*

Toka Late Summer. (*P. a.* x *P. sim.*) NE Hansen intro, SD Exp Stn, 1911. Rosy red fruit is mottled with darker purplish-red and covered with a faint bloom, up to 1 1/2" in diameter. Grower Don Johnson's comment: "Talk about flavor: candy plum." Sweet, distinctive, meaty and flavorful. Not real juicy. Somewhat freestone. Extremely vigorous tree blooms heavily every year. Diligent pruning may be required to keep it from becoming a bit of a monster. Considered a great pollinator for other hybrid plums because of its long bloom period. Z3. **ME Grown. Indigenous Royalties.**

***353A** Toka Plum, $37.75*

Underwood Midsummer. MN 91 [(*P. sim.* x *P. sal.* Shiro) x *P. a.* Wyant] U Minn, 1921. Large 2" dull red fruit. Firm sweet juicy golden-yellow semi-freestone flesh, very good for eating and cooking. Long picking season. Blooms earlier and longer than most hybrids and appears to be a very good pollinator for other hybrid plums, including Purple Heart. Northern Maine grower Steve Miller considers it one of his most reliable bearers. Long ripening season. Vigorous large spreading tree. Z3. **ME Grown.**

***354A** Underwood Plum, $37.75*

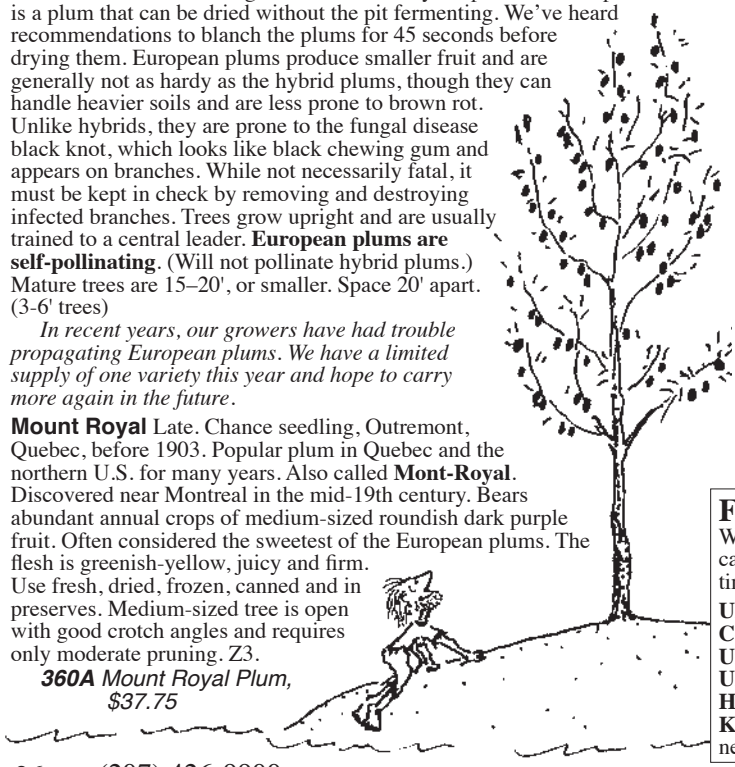
Waneta Midsummer. (*P. sal.* Apple x *P. a.* Terry) NE Hansen intro, SD Exp Stn, 1913. Released when hybrid plums were an important and commercially viable crop. Medium to large, somewhat pointed, 1 1/2–2" reddish-maroon clingstone fruit. Sweet tender translucent orange flesh is very juicy but not dripping. Medium-thick skin, tart and easy to peel. Delicious overall taste. Hansen said of Waneta: "My belief is that in this variety I have combined the best points of the native and the Japanese plum. It is probably the largest [fruit] of over 10,000 seedlings." Early blooming healthy open spreading tree bears reliably in our orchard. Named after a Yanktonai youth who won fame in the War of 1812 and later became a great chief. Z3. **ME Grown. Indigenous Royalties.**

***355A** Waneta Plum, $37.75*

European plum *P. domestica*

Delicious fresh and often grown commercially for prunes. A true prune is a plum that can be dried without the pit fermenting. We've heard recommendations to blanch the plums for 45 seconds before drying them. European plums produce smaller fruit and are generally not as hardy as the hybrid plums, though they can handle heavier soils and are less prone to brown rot. Unlike hybrids, they are prone to the fungal disease black knot, which looks like black chewing gum and appears on branches. While not necessarily fatal, it must be kept in check by removing and destroying infected branches. Trees grow upright and are usually trained to a central leader. **European plums are self-pollinating**. (Will not pollinate hybrid plums.) Mature trees are 15–20', or smaller. Space 20' apart. (3-6' trees)

In recent years, our growers have had trouble propagating European plums. We have a limited supply of one variety this year and hope to carry more again in the future.



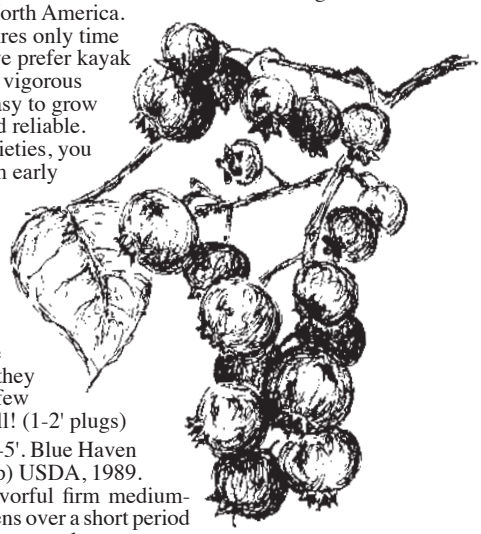
Mount Royal Late. Chance seedling, Outremont, Quebec, before 1903. Popular plum in Quebec and the northern U.S. for many years. Also called **Mont-Royal**. Discovered near Montreal in the mid-19th century. Bears abundant annual crops of medium-sized roundish dark purple fruit. Often considered the sweetest of the European plums. The flesh is greenish-yellow, juicy and firm. Use fresh, dried, frozen, canned and in preserves. Medium-sized tree is open with good crotch angles and requires only moderate pruning. Z3.

***360A** Mount Royal Plum, $37.75*

Small Fruits & Berries

Highbush Blueberries *Vaccinium corymbosum*

Many of Maine's lakes are lined with massive stands of highbush blueberries, native to North America. Grazing the shore requires only time and a suitable vessel; we prefer kayak or canoe. The beautiful vigorous shrubs are extremely easy to grow at home, productive and reliable. By planting several varieties, you can harvest berries from early July through most of August. First crops come 3–5 years after planting. Productive for at least 20 or 30 years. Berries may turn blue before they reach their peak flavor. Leave them on the bush until they are fully ripe. Check a few before you pick them all! (1-2' plugs)



Bluegold Mid-Late. 4-5'. Blue Haven x (Ashworth x Bluecrop) USDA, 1989. Highly productive. Flavorful firm medium-large light blue fruit ripens over a short period of time. Attractive dark green leaves turn shades of red and purple in the fall. Tolerant of fluctuating temperatures and extremely cold conditions with no bud damage. Densely branched with spreading habit; we recommend pruning to encourage upright growth and optimal fruiting. Z3.

***365A** Bluegold Blueberry, $18.00*

Blueray Early-Mid. 4-6'. (GM 37 x CU-5) USDA, NJ, 1955. Large firm dark blue berries of high dessert quality in small clusters. Considered the best-tasting by nearly everyone who grows highbush blueberries. Very vigorous bush with upright spreading habit. Consistently productive. Z4.

***366A** Blueray Blueberry, $18.00*

Duke Early. 4-6'. G-100 (Ivanhoe x Earliblue) x 192-8 (E-30 x E-11) USDA, NJ, 1987. Medium-large light blue firm fruit with excellent sweet flavor. Even after temps of –30° the winter of 2019, the branches were still loaded with fruit that summer. One of grower Seth Yentes's favorites in his U-pick. Flavor holds up better than other varieties in the freezer. Vigorous upright high-yielding bush. Long stems and loose clusters. Z4.

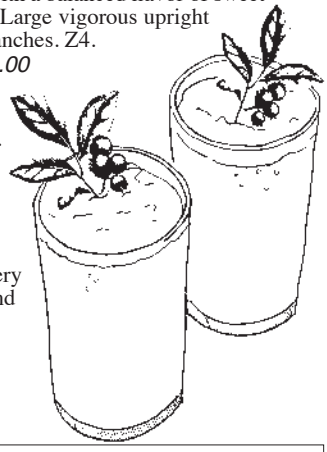
***367A** Duke Blueberry, $18.00*

Elizabeth Mid-Late. 5-6'. Discovered by Elizabeth White, Whitesbog, NJ, and released in 1966. Friend and avid fruit grower Dan Kennedy of Searsmont, ME, grows 17 different varieties of highbush and rates Elizabeth and Blueray as his top favorites. He describes the bushes as bearing dense clusters of large fruit with a balanced flavor of sweet and tart. Stores well in refrigeration. Large vigorous upright shrub has strong spreading lateral branches. Z4.

***368A** Elizabeth Blueberry, $18.00*

Elliott Very Late. 4-6'. Burlington x [Dixi x (Jersey x Pioneer)] USDA, 1974. A real season-extender. Considered the latest of all varieties, Elliott ripens two weeks after Jersey. Loose clusters of medium-sized very firm mild-flavored light blue berries. Slightly spreading somewhat bushy upright plant is highly productive every year, in part because it blooms late and escapes spring frosts. Z4.

***369A** Elliott Blueberry, $18.00*



Fruit-growing websites

Whether you use organic or conventional orchard practices, several websites can provide you with information about insect and disease pressure, spray timing, frost predictions and a whole lot more. Here are a few of the best:

UMaine Cooperative Extension: umaine.edu/ipm/programs/apple/
Cornell University: fruit.cornell.edu/
University of Vermont: uvm.edu/~fruit/
UMass Extension Fruit Program: ag.umass.edu/fruit
Holistic Orchard Network: groworganicapples.com/
Know Your Roots' newsletter, *Ecosystem Insights*: newsletterknowyouroots.com/newsletter--ecosystem-insights.html

Herbert Late. 5-6'. USDA, 1952. An older variety developed back in the 1930s is making a comeback with home gardeners. Sweet and tangy dark blue berries are of high dessert quality. Shrub consistently yields prolifically. Didn't make it big commercially for its shorter shelf life, but popular for its flavor and in favor at U-pick sites. Z4/5.

***370A** Herbert Blueberry, $18.00*

Jersey Mid-Late. 5-7'. Rubel x Grover. USDA, 1928. The beloved old standard of blueberry introductions to which new varieties are compared. Medium to large dark blue berries in large loose clusters. Vigorous erect hardy bush. Productive, adapted to a wide range of soils, highly praised, easy to grow and suited to the New England climate. Z4.

***371A** Jersey Blueberry, $18.00*

Meader Early-Mid. 5-7'. Elwyn Meader intro, UNH Ag Exp Stn, Durham, NH, 1971. Medium-large medium-blue fruit with excellent flavor, from one of our most beloved breeders. Sweet with a hint of acid. Vigorous upright open lightly spreading form. Very hardy. Z4 or even Z3.

***372A** Meader Blueberry, $18.00*

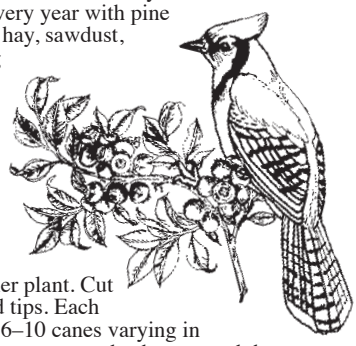
Patriot Early-Mid. 4'. US3 (Dixi x Michigan LB-1) x Earliblue (Stanley x Weymouth) UMaine, 1976. Partial lowbush parentage. Adaptable to many soil types. Large firm berries with excellent flavor. Productive upright open spreading bush. Tolerant or resistant to some strains of soil fungus. Hardy. Z3.

***373A** Patriot Blueberry, $18.00*

Growing Highbush Blueberries

Highbush blueberries like light acid soil with plenty of organic matter, good drainage, and plenty of water. Space them 3–6' apart (3' for the shorter varieties) in rows 8–10' apart. **Two varieties are required, three or more recommended, for pollination.**

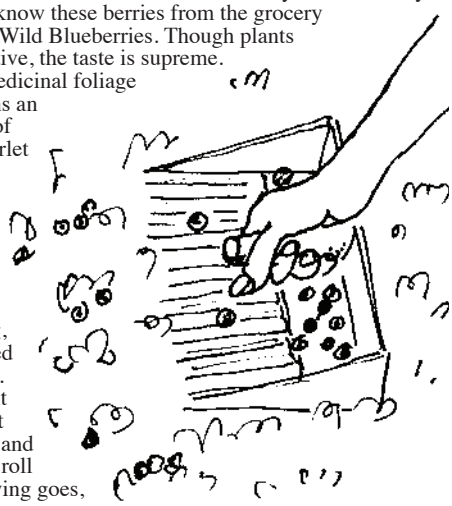
Competition with grass may weaken and kill your blueberries. Mulch heavily (3–6" or more) every year with pine needles, cardboard, wood chips, hay, sawdust, even old slab wood. When using sawdust you may want to compensate by adding extra nitrogen.



Fruit is produced on vigorous one-year shoots off healthy canes. As canes age they become twiggy and less productive. Begin pruning after three years. Head back long sprigs of new growth for a bushier plant. Cut out weak or dead canes and dead tips. Each bush should be allowed to grow 6–10 canes varying in age from 1–6 years old. Thereafter, remove dead canes and those over 6 years old to encourage new replacement canes. Bushes with regular moderate pruning produce the most berries.

Lowbush Blueberry *Vaccinium angustifolium*

Low and spreading. Blueberry growers in Maine usually don't bother with the "lowbush" distinction; to them, this is the only true blueberry. Folks from away may know these berries from the grocery freezer, labeled Maine Wild Blueberries. Though plants and berries are diminutive, the taste is supreme. Lustrous blue-green medicinal foliage is good in teas and turns an amazing combination of bronze, orange and scarlet in the fall. Grown in Maine long before Europeans came downeast, blueberries are still a local favorite and cultivated on thousands of acres.



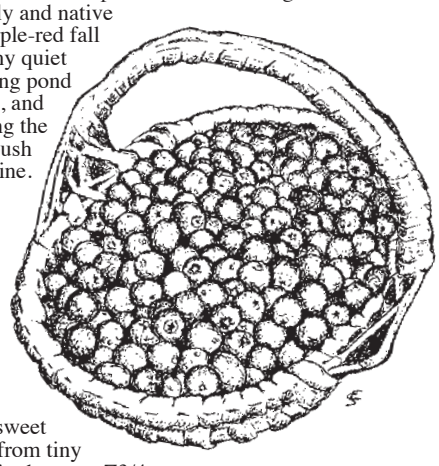
To speed harvesting, berries are usually raked rather than handpicked. You comb the rake a bit into the bushes (but not deeply so!), tilt it back and the berries pop off and roll into the pan. As the saying goes, "the lighter the hand, the more berries in the pan." You will also inevitably accumulate small twigs and leaves and various other odds and ends. Best raking is done on a breezy day. Lift the rake above your pail (we use a gallon bucket) and pour. Ideally the berries will stream into the bucket while the twigs and leaves flutter off in the wind. Native to northeastern U.S. Spreads by seed and rhizomes. Transplants will gradually form colonies but can be slow to get established. (1-2' plugs)

Brunswick Midseason. 1x2' Released from Kentville Stn, NS, Canada, c. 1975. Chance seedling found growing in a native stand of lowbush blueberries in a commercial field in New Brunswick, just north of us. Vigorous and prolific with up to 20 fruits per branch tip. Large light blue berries have that sweet lowbush flavor. Z3.

***375A** Brunswick Blueberry, $18.00*

Black Huckleberry *Gaylussacia baccata*

Cousin of the blueberry. Flowers in June and fruits in August. Nectar of the pink bell-shaped blossoms helps sustain the endangered adult Karner Blue butterfly and native bumblebees. Brilliant purple-red fall foliage. We've found many quiet little shrubs tucked in along pond edges and uplands woods, and also in great swaths among the sheep laurel and the lowbush blueberries of coastal Maine. Forms colonies but does so very slowly. Native to eastern U.S. and Canada. (1-2' plugs)



Michigan 1-3' x 2-4' Hartmann's Plant Co intro, found growing in Allegan County, MI, among some lowbush blueberries. Shiny black huckleberries are mildly sweet with the slightest crunch from tiny seeds. Delicious fresh or in desserts. Z3/4.

***377A** Michigan Black Huckleberry, $18.00*

Growing Lowbush Blueberries and Huckleberries

These both prefer sandy acidic well-drained soil. If you've got white pine, you're probably all set. Once established, they are drought tolerant. Fruit best in full sun.

Both are generally **self-pollinating, but planting multiples will enhance fruit production.**

Space lowbush blueberries 12" apart and cultivate as a groundcover.

Space huckleberries 3–4' apart for a nice hedge.

Elderberry *Sambucus* spp.

Elderberry trees appear in myths from days of yore, thought to possess magical and protective powers. Dangling clusters of edible purple-black berries ripen in late summer on this broad vigorous multi-stemmed shrub. The fruit is highly nutritious and medicinal. A century ago, every grandmother knew how to make the perfect elderberry pie. Recipes for jam could be found in all the old farm cookbooks. Elderberries have made a big comeback as folks rediscover the scrumptiousness of elderberry jelly, cordial, elixir and wine. The large creamy-white flower clusters, or cymes, that cover the shrub in early summer make delicious fritters. Dry them for a fragrant wintertime cold-and-flu remedy tea. For centuries, humans have used this plant's medicinal qualities to treat a wide range of ailments and to boost the immune system. Hippocrates is said to have called the elder tree his "medicine chest." Birds love the fruit, and the blossoms attract beneficial insects and pollinators.

Note: Cooking elderberries is essential to breaking down toxic cyanide-inducing glycosides in the seeds. Not for fresh eating.

No serious pest or disease issues. (1-3' shrubs)

American Black Elderberry *S. canadensis*

This species is native to North America. Hardier than the European *S. nigra*, and fruits on first-year wood.

Adams No. 1 6-12' x same. NY Ag Exp Stn intro, 1926. Selected in 1915 from the wild by William Adams in Union Springs, NY, and sent to Geneva where it was introduced 11 years later. Large berries and fruit clusters make for easy and fast picking. If you're heading to a potluck and need to make a pie in a pinch, Adams is the shrub you want. Very large vigorous strong productive bush. Z3. **ME Grown.**

***378A** Adams No. 1 Elderberry, $22.00*

Bob Gordon 6-8' x same. MU intro, 2011. Wild seedling selected by Robert Gordon in Osceola, MO. Large clusters of large dark berries. High Brix levels makes this elderberry a good one for winemakers. Upright slightly spreading habit. Z4. **ME Grown.**

***379A** Bob Gordon Elderberry, $22.00*

Goodbarn 5-10' x same. Chance seedling. Elwyn Meader intro, Rochester, NH. Professor Meader named this Goodbarn because it was the good elderberry growing under the eaves of his barn in New Hampshire. Another of the many fine plants Elwyn's son John has brought to our attention. Thanks, John! Hardy, vigorous with apparent self-fertility. It blooms heavily and produces large crops annually. Z3. **ME Grown.**

***380A** Goodbarn Elderberry, $22.00*

Johns 8-10' x same. Adams No. 1 or Adams No. 2 x open-pollinated. Nova Scotia Exp Stn, 1954. Very vigorous. One particular cutting in our garden grew 5' in one season and had berries and flowers at the same time late into the summer. Z3. **ME Grown.**

***381A** Johns Elderberry, $22.00*

Nova 6-8' x same. Open-pollinated seedling of Adams No. 2. EL Eaton intro, AgCanada Res Stn, Kentville, Nova Scotia, 1959. Selected in 1946 and named for its province of origin. Large sweet fruit matures early and uniformly. Suckers easily. Z3. **ME Grown.**

***382A** Nova Elderberry, $22.00*

Scotia 8-12' x same. Seedling of Adams 2. Kentville, Nova Scotia, 1960. High-yielding cultivar popular with market growers in Canada. Selected for high levels of sugar compared to other elders. Berries are on the small side. Showing serious vigor in our trials. Z4. **ME Grown.**

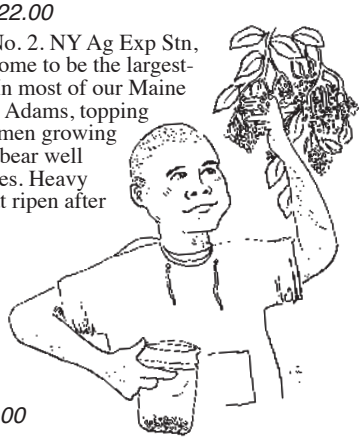
***383A** Scotia Elderberry, $22.00*

Wyldewood 6-12' x same. Selected from wild bushes in 1995, introduced in 2010, MU/MSU, by PL Byers and AL Thomas. A consistently high-yielding elderberry cultivar, popular in the Midwest. Some trials are showing it produces as much as Adams, if not more, and ripens a little bit later. Vigorous! Give it lots of room or whack it back. Z3. **ME Grown.**

***384A** Wyldewood Elderberry, $22.00*

York 4-10' x same. Ezyoff x Adams No. 2. NY Ag Exp Stn, 1964. An old reliable, considered by some to be the largest-fruited and heaviest-bearing cultivar. In most of our Maine trials, this shrub is more compact than Adams, topping out at 4–5', but we've seen a 10' specimen growing on a compost pile. Persistent and will bear well for many years alongside other varieties. Heavy clusters of mildly tart large berries that ripen after Adams. Z3. **ME Grown.**

***385A** York Elderberry, $22.00*



American Elderberry Seedlings

Each one is grown from cold-hardy seed and will be a totally unique plant. Some of our best plants grew from batches of such seedlings. Z3. **ME Grown.**

***386A** Elderberry Seedling, $22.00*

European Elderberry *S. nigra*

This species is native to Europe. The medicinal berries are extremely high in immune-boosting anthocyanins. You can use them in all of the same wonderful ways you would use the *canadensis* species. More tender than *canadensis*, but ours in Zone 4 seem to be almost as hardy. Note that *nigras* produce on second-year wood—prune accordingly.

Korsor 6-8' x 2-5' Danish cultivar bred for heavy fruit clusters and excellent juicing quality. Leaves are broader and darker green than other elderberries and the plant gives off a musky scent when you brush past it. Upright habit, extremely vigorous. Z4/5. **ME Grown.**

***387A** Korsor Elderberry, $22.00*

Marge 4-6' x 4-5' An open-pollinated seedling of Haschburg, one of the most popular commercial varieties in Europe. A heavy-yielding *nigra* with extreme vigor, hardiness and pest resistance. Upright and non-suckering. Named after Marge Millican of Wyldewood Cellars Winery, Mulvane, KS, also responsible for giving us the cultivar Wyldewood. Z4. **ME Grown.**

***388A** Marge Elderberry, $22.00*

Samyl 5-8' x 2-5' Res Ctr for Hort intro, Aarslev, Denmark. Selected for juice production based on very high anthocyanin content and sweet flavor. Strong upright shoots yield dark glossy berries. Z4/5. **ME Grown.**

***389A** Samyl Elderberry, $22.00*

ME Grown = grown in Maine at one of our small local nurseries.

Growing Elderberries

Elderberries are low-maintenance and easy to grow. They prefer moist soil with lots of compost, and full sun. That said, they are adaptable and will tolerate drier soil, poor drainage, and even temporary flooding. In the wild, we've harvested elderberries from a canoe!

Considered self-fertile but planting multiple varieties or even multiple species will improve fruit set. *Canadensis* and *nigra* species will pollinate each other.

At planting time, add plenty of compost to the hole; sidedress with compost every spring. Susceptible to borers if weeds crowd the base, but aggressive weeding can disturb elders' shallow roots—control weeds by mulching with a thick layer of hay, leaves or wood chips.

Pruning *S. canadensis*: In spring, while plant is still dormant, prune away any weak, broken or dead canes. New canes will emerge. Fruit is produced on both new and old wood but best sets are on one- and two-year canes. Periodically cut out the oldest wood. Alternately, some people prefer to cut elders back to the ground each year, in which case they will produce fewer but larger clusters.

Pruning *S. nigra:* These fruit on second-year wood. It's ok to prune in spring, but be sure to leave first-year canes for the next season's yield.

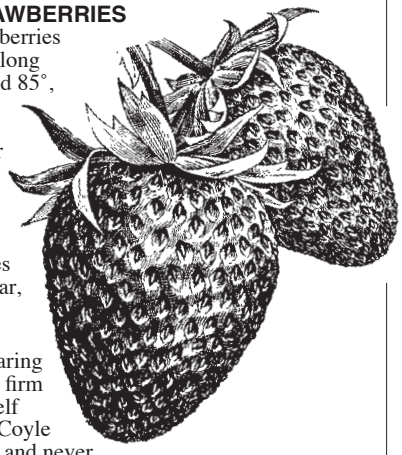
Strawberries *Fragaria* x *ananassa*

A major highlight of every summer is picking strawberries. In central Maine strawberry season usually coincides with the summer solstice.

Modern strawberries, developed about 1830, are a hybrid of *F. chiloensis* (native of Chile) and *F. virginiana* (native of North America). Royce Bringhurst of the UC-Davis developed everbearing strawberries from wild plants found in Utah's Wasatch Mountains. He crossed these with modern varieties and introduced the first everbearers in 1980.

50 plants will plant from 50–100'. (virus-free bare-root crowns)

EVERBEARING STRAWBERRIES



Everbearing, or day-neutral, strawberries flower regardless of day length as long as temperatures are between 35 and 85°, and produce fruit from June to October. They are uncommonly productive—about 1 lb of fruit per plant the first year, and slightly less the second year. Productivity peaks in August the first year. The second year, berry size decreases in the hottest weather and increases in cooler weather. After second year, turn under and start again.

Albion CN220 (Diamante x Cal 94.16-1) UC-Davis, 2006. Everbearing strawberry with very large conical firm fruit, excellent flavor and good shelf life. High yielding. Fedco's Alice Coyle switched to Albion from Seascape and never looked back. She says, "Albion is definitely no slouch for flavor. It continues to bear reliably and produce large delicious berries in hot weather." Plants are large and need extra space to produce bigger berries. Resistant to verticillium wilt, phytophthora crown rot, and anthracnose crown rot. **PPA.** Z4.

***L392A** Albion Strawberry, bundle of 50, $26.00*

Mara des Bois (Gento x Osara) x (Red Gauntlet x Korona) Hybridized by Jacques Marionett, Soings-en-Sologne, France, 1991. Everbearing strawberry claimed to be the most flavorful and fragrant of the day neutrals, often referred to as "gourmet." Berries are high in methyl anthranilate, the volatile compound that gives them their strong fragrance. Commercially grown in France where they are sold at a premium. Shorter shelf life makes them better suited for local markets. Plants bear medium-small glossy red berries prolifically from summer into fall the first year. Second year bears a heavy spring crop with continuously ripening berries throughout the summer. Z4.

***L393A** Mara des Bois Strawberry, bundle of 50, $26.00*

Seascape CN 49. Developed by Royce Bringhurst, UC-Davis, 1991. Everbearing strawberry with bright red medium-to-long conic high-yielding firm productive reliable fruit. Excellent flavor. Broad resistance to fungal diseases. Somewhat susceptible to common leaf spot and two-spotted spider mite. Very hardy. Z4.

***L394A** Seascape Strawberry, bundle of 50, $26.00*

JUNE-BEARING STRAWBERRIES

When cultivated as described in sidebar below, June-bearing plants begin bearing their second year and can produce for up to 5 years.

AC Wendy Early. K98-6 (K96-5 x Evangeline) Kentville, Nova Scotia, Canada, 2006. Large firm conical berries are great in the backyard garden or as an early-season berry for market. More flavorful than Annapolis and maintains size. Vigorous high-yielding plants send out lots of runners. Resistant to red stele though somewhat susceptible to verticillium wilt. Very hardy; showing excellent results in Northeast trials. **PPA.** Z3.

***L395A** AC Wendy Strawberry, bundle of 50, $26.00*

Allstar Mid. US 4419 x MdUS 3184. Large glossy firm berries are easy to grow. Very adaptable plants are not finicky and produce consistent yields under all kinds of adverse weather conditions, so a good one if you are making your first berry patch and want to feel successful! Very resistant to red stele and some resistance to verticillium wilt. Z4.

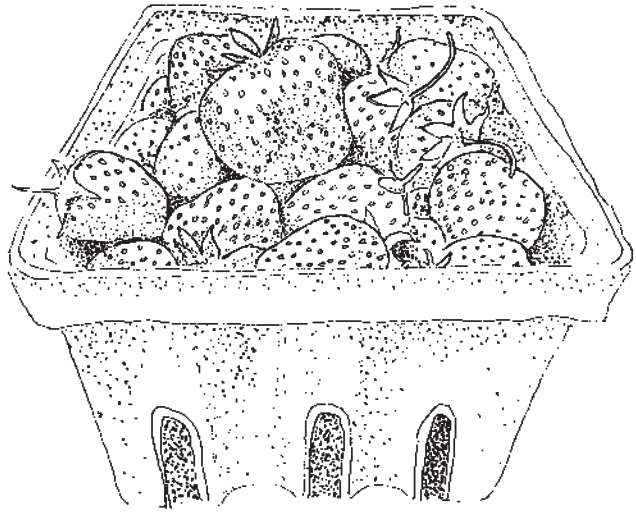
***L396A** Allstar Strawberry, bundle of 50, $26.00*

Honeoye Early-Mid. NY 1409 (Vibrant x Holiday) NY Stn, 1979. Folks pronounce it *honey-eye*. Tough, hardy, vigorous, extremely productive and easy to grow. The freezer-filler of the strawberry patch. Produces large conic bright red fruit over a long fruiting season. Firm flesh with tart—and surprisingly good—flavor. Excellent freezing quality. Probably the most popular commercial berry in the Northeast. Susceptible to verticillium wilt. Z3/4.

***L397A** Honeoye Strawberry, bundle of 50, $26.00*

Sparkle Mid-Late. Fairfax x Aberdeen. NJ Ag Exp Stn, 1942. We've yet to taste a strawberry that comes even remotely close to Sparkle. They possess a flavor that can only be described as the essence of strawberry. The best in an early year, the best in a late year, the best this year, last year, every year. Soft small-to-medium berries make delicious fresh eating and are also excellent for jams and freezing. One of its few drawbacks is that it tends to lose color in the freezer. Moderate crop yields. Resistant to most strains of red stele. Blooms late, rarely affected by spring frost. Z3.

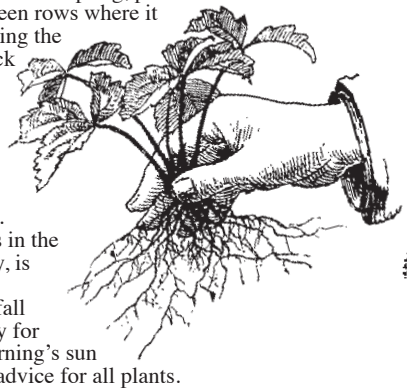
***L398A** Sparkle Strawberry, bundle of 50, $26.00*



Growing Strawberries

Strawberries require good air drainage, well-drained fertile soil, thick mulch and full sun. Avoid soils where tomatoes, peppers or potatoes have grown in the past 4 years. Plant strawberries at the same depth as they were in the nursery, with the middle of the crown at soil level.

Keep your patch free of weeds. Mulch with hay or straw in late fall to protect plants over winter. In the spring, pull mulch off plants and place between rows where it will keep fruit dry and clean during the summer. It can also be raked back over the plants if frost threatens flower buds. Floating rowcover may also be used for winter and frost protection.



The 1895 Green's Nursery catalog recommends setting out strawberry plants in the evening. "Carrying plants about the fields in the glaring sun in the heat of the day, is a trying ordeal. If planted in the evening, the dews immediately fall upon plants and give opportunity for recuperation before the next morning's sun appears." We think this is good advice for all plants.

Everbearing or Day-Neutral Strawberries

These heavy feeders benefit from 3–4" of manure worked 4–6" deep into the soil prior to planting. Plant 6–12" apart. Mulch immediately after planting. Remove flowers for the first 6 weeks, and remove all runners the first season. Mulch in late fall. After harvest the second year, turn under and start again.

June-Bearing Strawberries

Matted Row system: Set plants 12–24" apart in rows 3' apart. Allow plants to produce runners freely and fill in the row. Remove all flowers the first year. Harvest berries the second summer. Immediately after harvest, fertilize liberally with compost or aged manure and renovate the row. By hand or with a tiller, narrow the row to 12" wide. Thin plants to 4–5" apart within the row. By this method a bed can last about 5 years.

Raspberries *Rubus* spp.

We love raspberries: fresh or frozen, in smoothies, jam and especially pie. We even like the foliage—best taken from the first-year primocanes—which makes a delicious astringent healthful tea. Raspberry leaf and fruit vinegar is very high in minerals. The root bark is also medicinal. Raspberry season in Maine is mid-July through fall. Native to North America, Europe and Asia, they are usually identified as *R. idaeus* or *R. i.* var. *strigosus*. 53 different *Rubus* species and subspecies live in Maine.

Please note: Raspberries have very fine, fibrous roots. Often they do not sprout from the plant stem after planting. This is normal. Be patient! Keep them well watered and they should all break dormancy, sprout from the roots and thrive for many years to come. (Canes are bare root unless otherwise noted in the description.)

EVERBEARING RASPBERRIES

Everbearing raspberries bear on first-year canes (primocanes). Particularly desirable for northern growers because they can die (or be cut) to the ground and still produce a sizable crop the following year. In central Maine the first of these ripens in mid-late August and the latest can go through September.

Anne Late. JEF-b1 (Amity x Glen Garry) U of MD, 1998. Everbearing sweet flavorful pale yellow raspberry ripens in fall. Large cohesive conic fruit stores decently and is firmer than other yellows. Semi-vertical canes may sucker less than most everbearing types. Cut it entirely to the ground after the season is over. Resistant to phytophthora root rot. Z4.

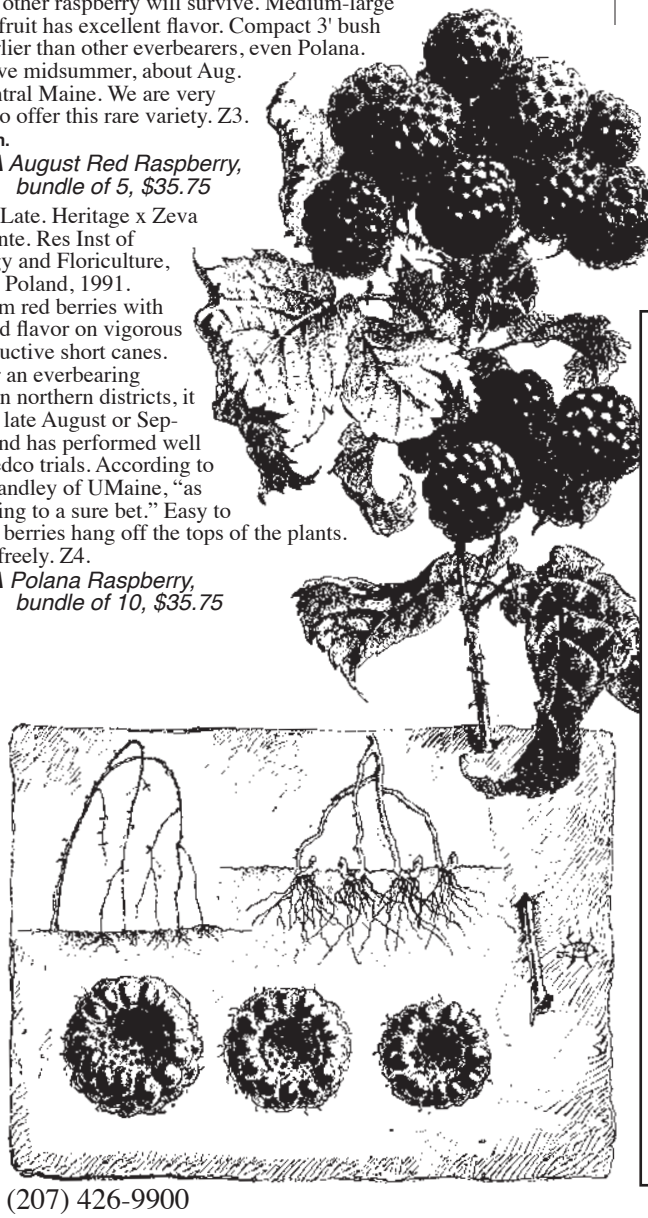
***401A** Anne Raspberry, bundle of 10, $35.75*

August Red Late. NH R7 [Durham x NH 102 (dwarf F2 seedling x Taylor)] x NY 287 [NY 18810 (Marcy x Indian Summer) x NY 20990 (*R. strigosus* selection)] Developed by EM Meader, UNH, 1973. Considered the hardiest of the everbearing types—the last hope when no other raspberry will survive. Medium-large crimson fruit has excellent flavor. Compact 3' bush bears earlier than other everbearers, even Polana. Productive midsummer, about Aug. 10 in central Maine. We are very pleased to offer this rare variety. Z3. **ME Grown.**

***402A** August Red Raspberry, bundle of 5, $35.75*

Polana Late. Heritage x Zeva Herbsternte. Res Inst of Pomology and Floriculture, Brzezna, Poland, 1991. Large firm red berries with very good flavor on vigorous and productive short canes. Early for an everbearing variety. In northern districts, it ripens in late August or September and has performed well in our Fedco trials. According to David Handley of UMaine, "as near a thing to a sure bet." Easy to pick: the berries hang off the tops of the plants. Suckers freely. Z4.

***403A** Polana Raspberry, bundle of 10, $35.75*



SUMMER-BEARING RASPBERRIES

Summer-bearing raspberries bear on second-year canes (floricanes). Midseason berries ripen around late July in central Maine.

Latham Mid. MN4 (King x Loudon) U Minn, 1920. A standard raspberry for more than a century, extremely popular and widely grown. Large bright red 1" fruit is roundish, firm, a little crumbly and sprightly sweet, full-flavored and aromatic. Great for fresh eating, canning, freezing, jam, juice or pie. Ripens over an extended season making it an ideal candidate for the home garden. Canes are 4–5' tall and highly productive. Not as spiny as most raspberries. Widely adaptable and very winter hardy. Disease resistant. Z3.

***404A** Latham Raspberry, bundle of 10, $35.75*

Nova Mid. Southland x Boyne. Kentville, Nova Scotia, Canada, 1981. In our trials Nova appears as hardy, if not hardier, than Boyne, which we often carry, and on par in fruit quality, too. Medium-sized firm somewhat acid bright red fruit. Upright productive minimally spiny canes produce long fruiting laterals that make berries easy to pick. Z3.

***405A** Nova Raspberry, bundle of 10, $35.75*

Prelude Early. NY 1009 (NY 817 x Hilton) NY Stn, 1998. Ripens very early and produces a second small crop in the fall, just when we start to miss raspberries. Very large red conic high-quality firm fruit is tasty and mild with little acidity. Vigorous winter-hardy canes. After several years of trial in his nursery, John Meader wrote, "I'd strongly recommend Prelude. It showed hardiness equal to Boyne last winter and fruits the earliest of all varieties I've observed." Z4.

***406A** Prelude Raspberry, bundle of 10, $35.75*

Royalty Purple Mid. (Cumberland x Newburgh) x (Newburgh x Indian Summer) NY Stn, 1982. Their distinctive flavor is different from the red raspberries, with a hint of black raspberry. A favorite for fresh eating among those who know it. Cohesive fairly firm large berries make outstanding jam and jelly, too. Extremely robust minimally suckering plants are very productive and open-formed; the berries are eye-level and easy to pick. Ready to harvest when they are deep purple, somewhat later than the reds. Plant in hills (see below). Disease resistant. Occasional slight tip dieback in Zone 3. Z3/4. (plugs)

***407A** Royalty Purple Raspberry, bundle of 5, $35.75*

Agri-gel Highly recommended for raspberry planting. See p. 43.
***L622A** Agri-gel, $4.00*

Growing Raspberries and Blackberries

Cane fruits have shallow perennial roots. They prefer full sun, good air circulation and well-drained soil rich in organic matter. Avoid soils where tomatoes, peppers, potatoes, strawberries or wild brambles have grown. A well-kept patch can last 10–20 years.

Raspberries and blackberries do not require a second variety for pollination.

Prepare planting holes by adding plenty of compost and make each large enough to spread out the roots. Do not allow the fine roots to dry out. We suggest soaking roots in Agri-gel (**L622A**, page 43) for 1–2 hours before planting. Plant 1–2" deeper than the nursery line. Mulch with a thick layer of woodchips. Fertilize liberally each spring with up to 100 lbs manure or compost, 8 lbs bloodmeal or 14 lbs soybean meal per 100 row feet.

Plants require 2" water per week during the growing season.

• **Everbearing raspberries:** Plant 9–15" apart. Everbearing types bear fruit on first-year canes, so you can cut all the canes to the ground in late fall or early spring. New first-year canes will fruit in mid-late summer.

In warmer districts, you can leave the first-year canes to overwinter after they fruit. The following year, you will get a light crop in early summer from those now two-year-old canes, followed by a larger crop later from the new first-year canes.

• **Summer-bearing raspberries:** To make a hedgerow, trellis between two wires about 3–4' off the ground and 18–36" apart. Space plants 2' apart. After harvest, prune to the ground the canes that carried fruit (or remove them the following spring). Thin the fresh first-year canes to about 3–4" apart. They will bear fruit next year. During the growing season cut back canes to 5' if they are bending over severely.

• **Purple and black raspberries and blackberries:** Plant in hills 3–4' apart, 3–4 plants per hill. Tie to a center post for support, if needed. Basic pruning is the same as summer-bearing raspberries. As they fill in, thin to 5–8 canes per hill. During the early summer, pinch back tip of first year canes to 2½–3' tall. This will encourage lateral fruiting branches. You may run a wire between hills for lateral branching but this is not necessary. In the following spring, cut these fruiting laterals back to 8–12 buds.

Black Raspberry Black raspberries bear on second-year canes. Some folks call these **black caps**.

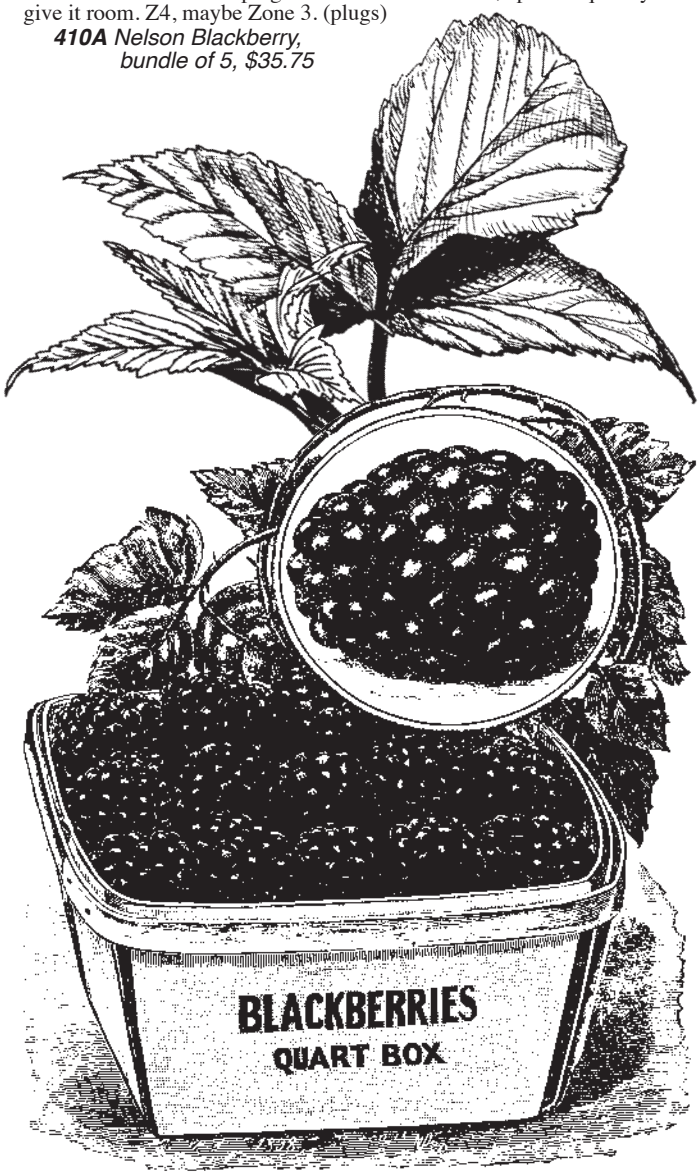
Jewel Midsummer. Bristol x Dundee. Cornell, Geneva, NY, 1973. High-yielding variety with superb quality and flavor. Glossy large firm juicy fruit with rich sweet lingering flavor. Larger than Bristol. Excellent choice for fresh eating, jams and jellies. Cohesive texture holds shape with refrigeration. Black raspberries contain high levels of antioxidants and anthocyanins, strengthening the immune system when eaten regularly. Freeze berries for winter to help combat colds and flu. Vigorous disease-resistant canes. Z4. (plugs)

***408A** Jewel Black Raspberry, bundle of 5, $35.75*

Blackberry Blackberries bear on second-year canes.

Nelson Midsummer. Nelson has been surviving Maine winters for at least a century. Introduced to us by the descendants of Nelson Fronk, whose 1928 family photograph taken on their farm northeast of Farmington shows the blackberries growing by the barn. John Meader calls it "exceptionally hardy," one of the most enduring blackberries he knows. Tall sturdy upright inch-thick canes can be grown on posts or free standing. Fruit is moderately large and quite juicy with true blackberry taste. Highly productive with 16–18 blossoms on the central stalk—the most we've seen on any blackberry. Four good pickings over two weeks in mid-August. Excellent jelly and good fresh eating. Disease resistant and certified virus-free plugs. Like all blackberries, spreads quickly so give it room. Z4, maybe Zone 3. (plugs)

***410A** Nelson Blackberry, bundle of 5, $35.75*



Grapes *Vitis* spp.

Grapes are easy to grow and can bear plentifully even in northern New England. They begin fruiting in the second or third year after planting. They are rugged and cold hardy. Our vines bear consistently every year. Although many people prefer seedless types for table use, seeded varieties can be quite enjoyable right off the vine if you don't mind "grape nuts." Grape seeds contain an antioxidant that is twice as powerful as vitamin C.

Most grape varieties are bred from a combination of different species, *V. labrusca* and *V. vinifera* being the most important. *Labrusca* is native to the eastern U.S., has a wild tart musky (foxy) flavor, and is hardy and disease resistant. Concord is the best-known of the *labruscas*. *Vinifera*, native to Europe, is extremely high quality, and is the most important wine grape in the world, but is not cold hardy and is prone to disease. *V. riparia*, native to North America, used as rootstock for grafted varieties and in hybridization with *vinifera*, is very adaptable to a wide range of soils, disease resistant and very cold hardy.

In central Maine, "very early" grapes begin ripening in mid-August, while "midseason" ripen mid-September. Late-season Concord, a standard elsewhere, does not ripen in many northern areas. (well-rooted vines)

Bluebell Mid. MN 158 (Beta x unknown) Developed by JM Dorsey, U Minn, 1944. Our most popular seeded grape; it does everything well. Delicious flavor makes them excellent for fresh eating, jelly and juice. Clusters of medium-sized dark berries with a heavy blue bloom. Extremely hardy, to –30˚, *labrusca*-type ripens 2–3 weeks earlier than Concord. While it ripens beautifully from central Maine south, it may not have time to ripen in some northernmost locales. Strong, productive, vigorous—but not rampant—vine. A joy to grow. Immune to most or all fungal diseases. Z3/4.

***412A** Bluebell Grape, $18.00*

Frontenac Blanc Mid-Late. U Minn, 2012. Yellow-gold berries make a full-bodied white wine with moderate to high acidity. A naturally occurring cross between Frontenac and Frontenac Gris, distinctly different with all the same great traits: productive, vigorous, disease-resistant, hardy. In an NPR broadcast, reporter David Sommerstein tasted this wine at Coyote Moon in northern New York and commented, "It's aromatic with peach and nectarine, but also caramel smooth…a totally new grape…exactly what the next generation of wine drinkers is seeking—diversity and adventure." Decent for fresh eating as well. Z4/5.

***413A** Frontenac Blanc Grape, $18.00*

Growing Grapes

For the best grapes, provide moderate fertility, very well-drained soil and full sun. Every June we thoroughly weed the grapes under our arbor, then mulch very liberally with old hay. After that, we don't do a thing to them except harvest in late summer and prune in late spring.

Grapes do not require a second cultivar for pollination.

Space 8–12' apart in rows 8–12' apart. Spread the roots out, planting the crown even with the soil surface. Pack soil well. Water and mulch well. After frost danger has passed, prune vines back to 3–5 strong buds. Continue to mulch annually with hay or straw. Every few years fertilize liberally with granite dust.

Grapes require annual pruning and a trellis or arbor, though in Italy they still sometimes grow them in maple trees. All systems for growing grapes involve removal of most growth in late spring to encourage new canes, as fruit is produced on these canes. There are many systems for training grapes. Some are suited to laying down and covering tender varieties over winter. Any good book on grape growing will show you several options. We suggest the Hudson River Umbrella or the Four-arm Kniffin system. The University of Maine offers a series of videos demonstrating different grape-training techniques. Go to: umaine.edu/highmoor/ and click on "videos."

The current vineyard standard for wire is high-tensile-strength class III galvanized steel. The gauge should be 11 to 12.5. The wire is generally sold by weight. 100 lbs of 11 gauge measures about 2600'. 100 lbs of 12.5 measures about 3800'.

Grapes rated for Zone 5 can be grown in Zones 3 and 4. To prevent winter injury, remove the vine from the trellis in fall, lay it on the ground, and bury with just enough soil to cover. To do this, plant your new grapevine at a 45° angle. Train new shoots horizontally for at least one foot. Then, curve shoots upward to form a J shape. This creates a flexible hinge, allowing you to lay the vine down at the end of the season.

For trellising ideas, see next page.

Louise Swenson Mid. ES 4-8-33 (ES 2-3-17 x Kay Gray) Elmer Swenson intro, MN, 2001. Also called **Louise** (Elmer's wife). Large clusters of high-quality light green grapes produce a light subtle aromatic white wine. Also excellent for eating out of hand, juice or jelly. Minnesota Grape Growers describes the wine as having a "delicate aroma of flowers and honey." Winemakers recommend adding fuller-bodied grapes like Prairie Star or Frontenac Blanc for a finished blend. Extremely reliable yields on moderately vigorous vines. Buds out relatively late in the spring. Extremely hardy to –40°. Disease resistant. Will tolerate heavier soils than most other grapes. Z3.

***414A** Louise Swenson Grape, $18.00*

Marquette Mid-Late. MN 1211 (MN 1094 x Rivat 262) U Minn, 2006. This grape has northern winemakers buzzing with excitement. The best variety this side of the Atlantic for a Pinot Noir–style red wine. One parent, MN 1094, has both *V. riparia* and *V. vinifera* in its background. The other, Rivat 262, is a French hybrid with Pinot Noir as one of its parents. Not only is Marquette heavy with *vinifera*, the vines are also extremely cold hardy. And there's more: sugar levels are high—in the range of 26.1 Brix—and the acid levels are lower than Frontenac. Substantial tannins add complexity. Small-medium bluish-black berries in small to medium-sized clusters. Ripens a few days before Frontenac. **PPA.** Z3.

***415A** Marquette Grape, $18.00*

Petite Pearl Late. TP 2-1-24 (MN 1094 x ES 4-7-26) Tom Plocher intro, 2010. Small dark blue thick-skinned berries in small compact clusters make a nice *vinifera*-type dry red wine or rosé. Grower Andy Farmer calls it "very complex with lots of spice, attractive earthy aromas and jammy fruit. Substantial tannins for a fully hardy grape and a long finish. This may be an excellent blending component to add complexity and softness to most northern red wines." Good to blend with Marquette to create a Cabernet/Syrah/Merlot-style wine. Highly resistant to disease and withstood no damage at –32° one cold Minnesota winter. Slow grower with open habit. Thanks, Tom, for permitting Fedco to be one of the few nurseries offering this grape in the U.S. Z4.

***416A** Petite Pearl Grape, $18.00*

Reliance Seedless Very Early. Arkansas 1163 (Ontario x Suffolk Red) AR Stn, 1982. Medium-sized berries are good for fresh eating or juice. Large loose clusters of tender melting sweet pinkish-red fruit with a strawberry-like flavor. Stores well in a root cellar for 1–2 months. Seems hardy although it has shown significant dieback in our Zone 4 trials. You may need to lay vines down for the winter in colder areas (see sidebar on previous page). While the literature cautions about Reliance's disease susceptibility, our vines have performed well and remained free of disease. Z4/5.

***417A** Reliance Seedless Grape, $18.00*

Somerset Seedless Early. ES 12-7-98 (ES 5-3-64 x Petite Jewel) Elmer Swenson intro. Somerset is likely one of the hardiest seedless dessert grapes available today. One of the last Swenson introductions before the renowned and beloved grape breeder passed away in December 2004. Medium-sized loose clusters with small sweet ruddy reddish-golden fruit. Crispy texture and great flavor. Easy to grow but not overly vigorous. Z4.

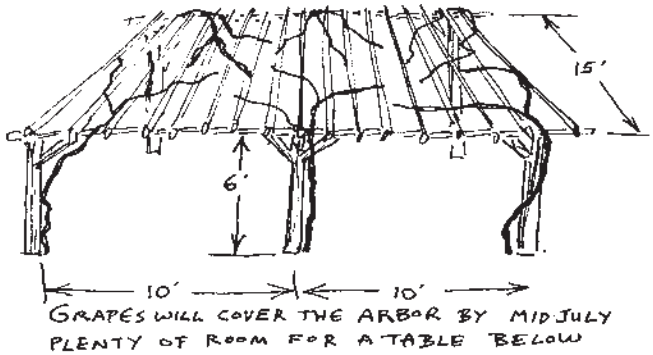
***418A** Somerset Seedless Grape, $18.00*

Vanessa Seedless Mid. Seneca x NY 45910. Introduced by KH Fisher and OA Bradt, Vineland Stn, Ontario, 1983. Large bright firm seedless deep red grapes with a fruity flavor make the absolute best raisins we've ever eaten. Excellent fresh eating. Medium-sized well-filled clusters on vigorous vines. Ours had some dieback at –20° but they all re-sprouted from the base and grew back to where they left off the previous summer. Going strong in our central Maine vineyards. Z4/5.

***419A** Vanessa Seedless Grape, $18.00*

Training Grapes on an Arbor

Train one or more vines onto an arbor or gazebo; we have 8 vines, spaced about 10' apart. Prune each vine back to a single trunk. Encourage several permanent arms from each trunk. In late spring remove 70-90% of the past summer's growth. Next summer new fruiting canes will grow off the permanent arms.



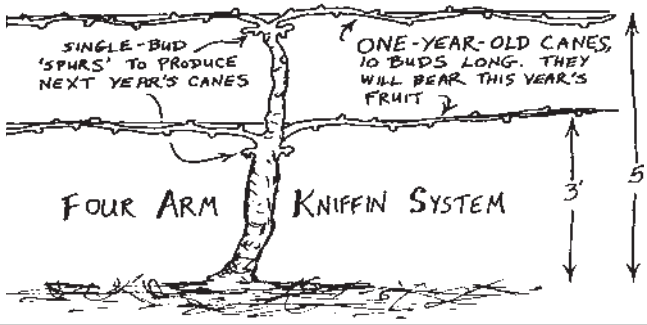
Pruning Grapes in the Four-Arm Kniffin System

First year: After the danger of frost has passed, cut newly planted vines back to a single stem, 6" long with two to three buds.

Second year: Set up two wires, 3' and 5' high, stretched between posts. Cut plant back to a single stem, 6 feet long and tie it to the top wire. Leave 4–6 buds near each wire and remove others.

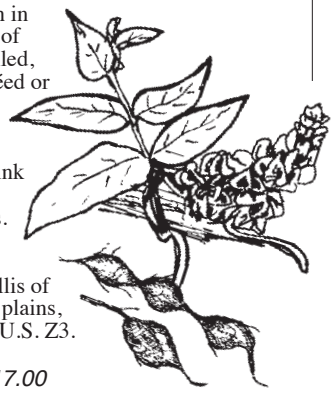
Third year: Select 8 canes, 4 for each wire, and remove the rest. Tie two canes to each wire, one in each direction. Cut these 4 canes back to 10 buds each. Cut the remaining 4 canes back to 1–2 buds each.

Later years: In late spring, remove last year's fruiting canes. Select eight new canes. Cut 4 of them to 10 buds each, and tie them to your wires. Cut the remaining 4 back to 2 buds each. These will produce next year's fruiting canes. Remove all other canes. The number of buds left on the fruiting canes may be adjusted to encourage more fruit (leave more buds) or larger size (leave fewer buds).


SINGLE-BUD 'SPURS' TO PRODUCE NEXT YEAR'S CANES
ONE-YEAR-OLD CANES, 10 BUDS LONG. THEY WILL BEAR THIS YEAR'S FRUIT
FOUR ARM KNIFFIN SYSTEM
3'
5'

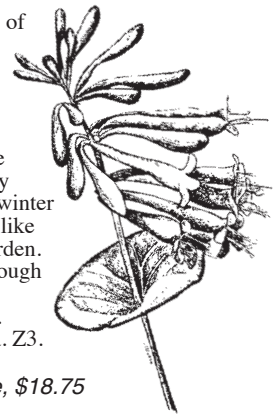
Hardy Vines & Creepers

***Apios americana* Groundnut** Grows to about 5' long. Nitrogen-fixing leguminous perennial twining vine with edible tubers. Roots grow 1–6" deep and have periodic swellings (the groundnuts) that range from marble size to larger than a golf ball. These edible tubers can be harvested any time of year. Delicious, high in starch, and contain three times the protein of a potato! Peel them first, then eat them boiled, roasted, baked, mashed, sliced, diced, puréed or even made into chips. Not recommended raw. Will keep a month or more in the fridge or root cellar, or dry them and they keep forever. Small orchid-like maroon, pink and violet flowers appear in late August in central Maine followed by 2–4" bean pods. Prefers moist sandy soil. Full to partial sun. Keep it out of your garden as it will spread. Can be vigorous and requires a trellis of some sort. Native to river banks and flood plains, southern Canada, eastern and midwestern U.S. Z3. **ME Grown.** (tubers)



***L422A** Groundnut, bundle of 10, $17.00*

***Lonicera* x *brownii* 'Dropmore Scarlet' Honeysuckle** 10-20' long. (*L. sempervirens* x *L. hirsuta*) Tall climbing (non-invasive!) honeysuckle developed by FL Skinner in Manitoba. Jazzy whimsical whorled clusters of 1 1/2" scarlet-orange tubular flowers bloom profusely and tirelessly from early summer into late fall. Attracts butterflies and bees but especially loved by our ruby-throated hummingbird. Striking blue-green foliage is perfoliate, appearing as if the red stems were growing through a single cupped disk. Finely shredded peeling bark makes an interesting winter display. Great for fence or arbor or cut back like a perennial for a low rangy mound in the garden. Easy to grow, generally free of problems, though susceptible to aphids. Flowers the first year. Likes average well-drained soil and full sun. Both parent species native to North America. Z3. (well-rooted transplants)



***428A** Dropmore Scarlet Honeysuckle, $18.75*

Hops

Humulus lupulus

Up to 20-30' long. Beautiful twining vine covers a trellis, archway or the entire side of a barn. Our favorite live awning to shade out the summer sun. Green lobed leaves, bristly stems, and insignificant greenish flowers, followed in late summer by the hops: papery aromatic cone-like strobiles used medicinally and in brewing for more than 1000 years. Herbalist John Christopher recommended the strobile tea as "a powerful, stimulating and relaxing nerve tonic." For brewing, there are basically two types of hops. Aroma hops have a lower percentage of alpha acids and are used for flavoring, finishing or conditioning brews. Bitter hops have more alpha acids and are used to impart bitterness. Native to Eurasia. Z3. (female rhizomes)

***H. l.* 'Cascade'** USDA 19124 (Fuggle x Serebrianka-Fuggle S) x open-pollinated. OR St U, 1972. Contains 4–7% alpha acids. Fragrantly aromatic hop, low bittering value. For years Cascade has been the most widely used hop in the beer industry. Very productive with large cones, ready to harvest mid-late August in central Maine. A customer wrote, "Cascade has gained impeccable renown as the charismatic hop in such unsurpassable ales as Anchor's Liberty Ale, Sierra Nevada's Pale Ale and McNeill's Firehouse Amber Ale. Nothing 'light' about these." Resistant to downy mildew.

***L423A** Cascade Hops, bundle of 3, $21.25*

***H. l.* 'Chinook'** Petham Golding x select US male. USDA, 1985. A mid to late-season dual-purpose high-alpha hop used commercially in pale ale, IPA, seasonal ales, porter and stout. Spicy aroma has some piney and herbal undertones. Alpha content 12–14%. Medium-compact cones have good storage stability. Disease and insect resistant. **Indigenous Royalties.**

***L424A** Chinook Hops, bundle of 3, $21.25*

***H. l.* 'Nugget'** (USDA 65009 x USDA 63015M) which is 5/8 Brewers Gold, 1/8 Early Green, 1/16 Canterbury Golding, 1/32 Bavarian and 5/32 unknown. Corvallis, OR, 1970. High-yielding high-alpha bittering hops for medium to dark ales and lagers. Very popular in IPA. Heavy spicy herbal aroma. Compact cones ripen midseason, late August to early September in central Maine, about two weeks after Cascade. Resistant to downy mildew and verticillium wilt.

***L425A** Nugget Hops, bundle of 3, $21.25*

Growing Hops

Hops prefer rich light well-drained soil and full sun, but they are adaptable and will tolerate shade.

Plant it where you're sure you want it because the extensive root system can be hard to dig up. Dies back to the ground in fall and rebounds more vigorously each year.

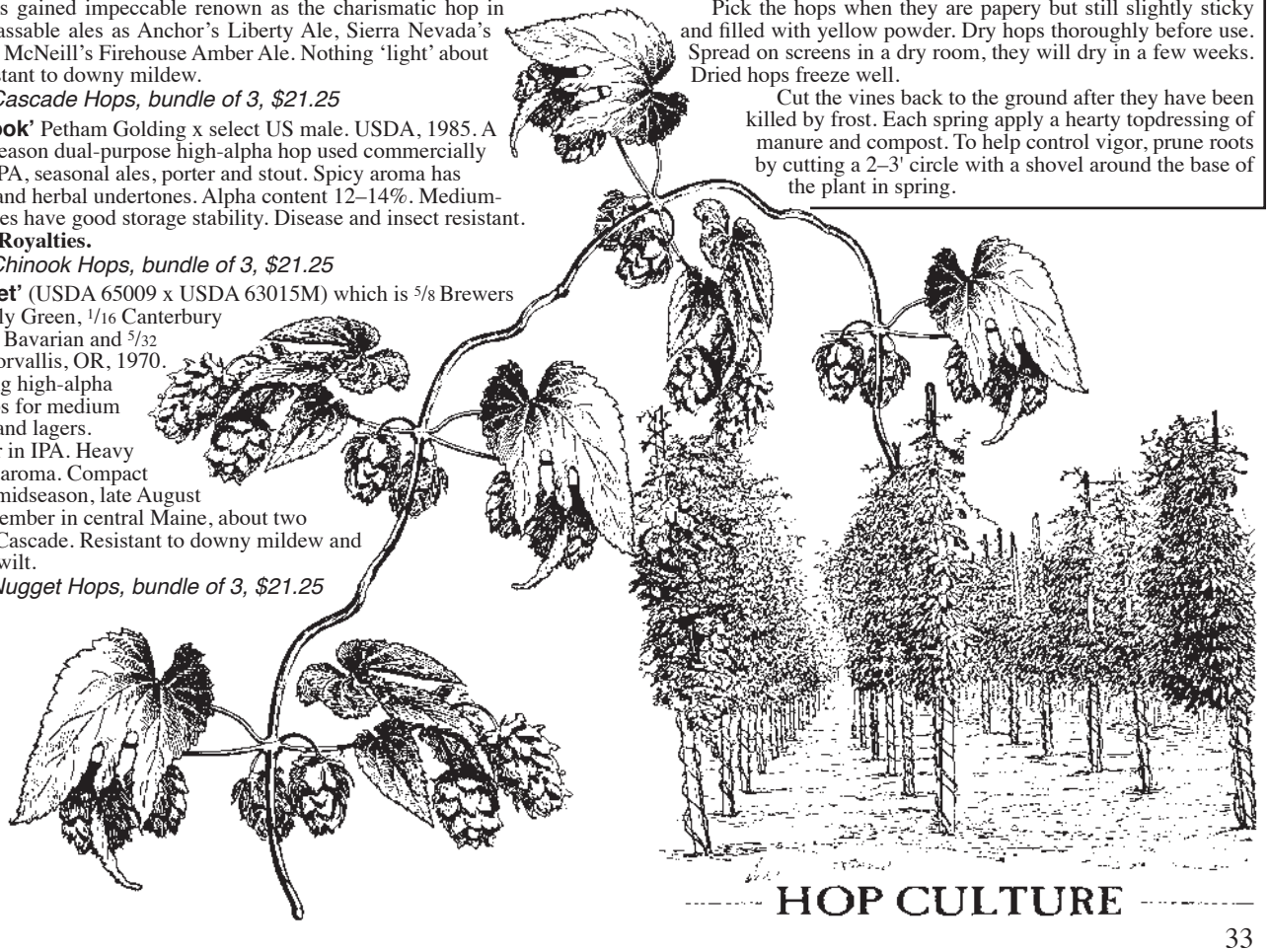
Dig holes about 1' deep and at least 3' apart in rows. Add manure, compost and other slow-release organic fertilizers. Plant 1 or 2 rhizomes per hole, horizontally with the buds pointed up and cover with 1–2" of loose soil. The first year the hop plant requires frequent light watering and mulching.

Hops grow vertically, with lateral sidearms extending from the main vine and producing cones. Vines may grow up to 25' in a single season, and do best if they are trained onto strong twine 12–30' high, supported by a trellis, wire, pole, tree branch or south-facing building.

When the young vines are about 1' long, select the 2 or 3 most vigorous vines per hill and remove the rest. Gently wrap the vines clockwise onto a string. Once trained, the vine will guide itself.

Pick the hops when they are papery but still slightly sticky and filled with yellow powder. Dry hops thoroughly before use. Spread on screens in a dry room, they will dry in a few weeks. Dried hops freeze well.

Cut the vines back to the ground after they have been killed by frost. Each spring apply a hearty topdressing of manure and compost. To help control vigor, prune roots by cutting a 2–3' circle with a shovel around the base of the plant in spring.



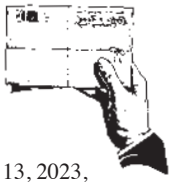
HOP CULTURE

Ordering Instructions

Order online at fedcoseeds.com/trees.

Or mail your order form: **Fedco Trees, PO Box 520, Clinton, ME 04927.**

• Use a current catalog, as prices and selection vary year to year!



• Use the 2023 order form; submit as many pages as you need using our exact format. Print an order form from our website to make this easier—a spare form can be found at fedcoseeds.com/requests.htm

• Keep a copy of your order for your records.

• We do not take fax or phone orders.

Volume discounts apply to orders submitted by January 13, 2023, with subtotals of $100 or more. Must be shipped to one address only. Sorry, no volume discounts on later orders. See order form for details.

Scionwood orders and early shipment of rootstock: Order online or use the scionwood order form on pages 37-38.

Group Orders Discontinued

We are no longer offering a group order option for items in this catalog. We still encourage you to go in with friends and neighbors to qualify for higher volume discounts by submitting *one* regular order under *one* name. We cannot bundle and label items separately—you'll sort that out yourselves.

Substitutions

If something becomes unavailable, our default mode is to substitute a similar variety because most people prefer a similar tree or plant to a refund. On the order form, if you indicate you don't want any substitutions, we'll send a refund. You'll have the option to donate some of your refund to the Maine Heritage Orchard.

Tax Exemption

Retailers and farms: We need a copy of your state resale certificate or farm exemption, otherwise we must collect sales tax.

• Mail orders: include a copy of your certificate with your paper order.

• Online orders: email us at questions@fedcoseeds.com with a scan of your tax exemption certificate *before* placing your order.

Shipping Restrictions

Some states have restrictions on imported plants. Please check this list to make sure you're not trying to order something that's restricted in your area.

*** We do not ship any plants outside the U.S. ***

AZ: *Juglans* spp. Walnut
CA: *Castanea* spp. Chestnut; *Juglans* spp. Walnut; *Pinus* spp. Pine; *Quercus* spp. Oak
CO: Some counties prohibit *Prunus* spp. Cherry, Peach, Plum. Please check your county regulations.
FL: *Castanea* spp. Chestnut; *Cornus* spp.; *Quercus* spp. Oak
GA: *Vaccinium* spp. Blueberry, American Cranberry
HI: *Pinus* spp. Pine
ID: *Humulus lupulus* Hops; *Mentha* spp. Mint; *Vitis* spp. Grape
IN: *Fragaria* spp. Strawberry; *Rosa* spp. Rose
KS: *Juglans* spp. Walnut
MD: *Asparagus*
MI: *Abies* spp. Fir; *Vaccinium* spp. Blueberry, American Cranberry, Lingonberry
MT: *Pinus* spp. Pine
NC: *Asparagus*
NJ: *Rosa* spp. Rose
NV: *Allium* spp. Chives, Flowering Onion; *Mentha* spp. Mint
NY: *Vitis* spp. Grape
OR: *Allium* spp. Chives, Flowering Onion; *Castanea* spp. Chestnut; *Corylus* spp. Hazelnut; *Humulus lupulus* Hops; *Quercus* spp. Oak; *Sambucus nigra* European Elderberry; *Ulmus* spp. Elm; *Vaccinium* spp. Blueberry, American Cranberry; *Vitis* spp. Grape
TX: *Juglans* spp. Walnut
WA: *Allium* spp. Chives, Flowering Onion; *Castanea* spp. Chestnut; *Corylus* spp. Hazelnut; *Humulus lupulus* Hops; *Vaccinium* spp. Blueberry, American Cranberry, Lingonberry; *Vitis* spp. Grape
WI: *Mentha* spp. Mint

Plants in soil medium cannot be shipped to the following states: AK, AL, AR, AZ, CA, HI, ID, KS, MS, MT, ND, NE, NM, NV, OK, OR, SD, TX, UT, WA.

The following plants come in soil: *Achillea millefolium* 'Oertel's Rose', 'Paprika' and 'Terra Cotta'; *Alcea* Hollyhock; *Arctostaphylos uva-ursi* Bearberry; *Armeria splendens* Sea Thrift; *Asarum canadense* Wild Ginger; *Calluna vulgaris* Heather; *Clethra alnifolia* Summersweet; *Digitalis* Foxglove; *Erica carnea* Winter Heath; *Gaultheria procumbens* Wintergreen; *Gaylussacia baccata* Huckleberry; *Iris germanica* Bearded Iris Mix; *Phlox* spp.; *Rubus* 'Royalty Purple' Raspberry, 'Jewel' Black Raspberry, 'Nelson' Blackberry; *Salix* spp. Willow (except Niobe Weeping); *Sempervivum* Hens & Chicks; *Symphyotrichum dumosus* 'Alert' Aster; *Vaccinium angustifolium* Lowbush Blueberry; *V. corymbosum* Highbush Blueberry; *V. macrocarpon* American Cranberry; *V. vitis-idaea* Lingonberry

Deadlines

• Volume discount deadline is January 13, 2023.
• Scionwood order deadline is February 17, 2023.
• Final order deadline (except scionwood) is March 3, 2023.

Pickup

We are no longer offering a pickup option.

Shipping Rates

• We ship via FedEx or USPS Priority Mail, our choice.

• **Maine** customers pay only flat-rate shipping fees.

• **Alaska** shipments are sent via USPS Priority Mail. Please include a postal address. *This rate also applies to Hawaii and anyone in the Lower 48 who requires postal delivery.*

• **Small & Light shipping** applies only to orders in the Lower 48 that exclusively contain item numbers beginning with **L**: perennials, bulbs, strawberries, rhubarb, hops, asparagus, scionwood and more. If you order other items in addition to these, you must pay the higher shipping rate.

Shipping Schedule

• Scionwood and early rootstock orders ship **around March 13**.

• We ship everything else **approximately March 28 through May 5**. We begin with warmer areas, working our way to coldest areas last. We do not ship outside of this range of dates.

• If you provide an email address, you will receive an automatic email confirmation with the tracking number when it leaves our warehouse.

• If you're in New England, your order may take 1-2 business days to arrive. Outside New England, it may take several business days.

• No Special Ship Dates!
We cannot accommodate specific ship date requests or guarantee your order will arrive on a certain day. If you are away during our shipping dates, consider having your plants shipped to a friend or neighbor to care for them until you return.

• We will keep our website updated with our **approximate** shipping schedule by state so you can get an idea of when your order will ship. Check our website in the spring for more info.

Out of Stocks

We fill all orders on a first-come first-served basis. Some customers wonder why we don't contact them when something on their order is out of stock. We understand the disappointment. Some of our stock arrives in November to be stored through the winter, but much more of it arrives in early spring just before—or even during—shipping. When we don't know about a shortage or crop failure or damage until the last minute, it's impossible to contact customers individually. We will issue you a refund. Please accept this as a condition of ordering.

Handling Charges

We charge $10 for handling each time you adjust your order. Additions and deletions are costly for us to process. You are welcome to place as many separate orders as you wish.

Cancellation Policy

If you must remove items after our final order deadline, we will charge a $20 fee. If you must cancel after the deadline, we will retain a $20 fee or 20% of the order total, whichever is greater. *Please don't make us do this*. Unlike most businesses, we take orders from this catalog for about five months and then fulfill them all in a span of a few weeks. When we receive last-minute cancellations or order reductions after we've closed for ordering, we cannot resell the plants we've designated for your order.

Plant Sizes

Unfortunately, we can't take requests for particular plant sizes or branching preferences. We grade for healthy trees with excellent root systems. Sizes listed for each item should be considered an average. The trees and shrubs in your order will sometimes be slightly larger and occasionally smaller than these projections.

Fedco Trees 2023

PO Box 520 Clinton, ME 04927
www.fedcoseeds.com/trees

(From mailing label) CC-

Farm or Group Name

Name

US Mail Delivery Address

Town St Zip

Street Address (if different)

Town St Zip

Phone

Email

Volume discount cutoff:
January 13, 2023
Final order deadline:
March 3, 2023

Visit **fedcoseeds.com** to check product availability.

Delivery:

☑ **Ship** in late March to early May.
Sorry, no pickup option or Tree Sale in 2023.
We cannot accommodate specific ship date requests.

Substitutions:

	Yes	No
I will accept a similar variety.	❑	❑
I will accept similar rootstock. (Applies to apple trees only.)	❑	❑

Subtotal from reverse	
Volume Discount only orders received by 1/13/23	–
Fedco Member? 1% Discount from Subtotal	–
Adjusted Total	=
Shipping	+
Sales Tax (if your state is listed)	+
Order Total	=
Optional $2 to defray catalog mailing cost	+
Grand Total	=

Volume Discounts on orders received by 1/13/23

Subtotals $100 and over	take 5% off
$300 and over	take 10% off
$600 and over	take 15% off
$1200 and over	take 20% off

Shipping Rates

We ship via FedEx or Priority Mail, our choice.
If you *require* postal delivery (all PO Boxes), use the Alaska/Hawaii rates.

1) Maine

All item #s begin with **L**: Maine Small & Light flat rate	$10
Otherwise, Maine regular flat rate	$25

2) Alaska, Hawaii, or addresses that ***require*** **postal delivery**

Adjusted Total up to $129.00	$27
Adj Total more than $129.00	21% of Adj Total

3) All other U.S. states

All item #s begin with **L** **(Small & Light Shipping)**	Adj Total up to $59.00	$10
	Adj Total > $59.00	17% of Adj Total
Otherwise, Regular Shipping	Adj Total up to $147.00	$25
	Adj Total > $147.00	17% of Adj Total

Sales Tax

ME addresses	—	Pay 5.5% sales tax on Adjusted Total
FL, MA, MD, UT, VA, WY	—	Pay your local tax rate on Adj Total
CT, GA, IL, IN, KS, KY, MI, MN, NC, NJ, NM, NY, OH, PA, RI, TN, VT, WA, WI, WV	—	Shipping is taxable – pay your local tax rate on **Adj Total + Shipping**

Help support the
Maine Heritage Orchard
by donating refunds for out-of-stock items or overpayments.

❑ Donate up to $25.00
❑ Donate up to $10.00
❑ Donate up to $5.00

Payment:

- We accept payment by check, money order, or credit/debit card.
- Please make checks payable to **Fedco**.
- Orders under $25: please pay by check or money order.

We accept Visa, MasterCard, American Express and Discover Card. Exp. Date

Fedco Trees 2023: Trees, Shrubs & other Plants

For **scionwood and early shipment of rootstock**, order online or use the next form.

	Item #	Qty	# Plants per pkg	Name	Price Each	Total Price
1						
2						
3						
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28						
					Subtotal	

If you are ordering more than 28 items, copy this page or our format and submit as many pages as you need. You can download another form at fedcoseeds.com/requests.htm.

If you order *only* item numbers beginning with **L**, you qualify for our **Small & Light shipping rate**. See other side for details.

Order Comments:

Scionwood 2023

Fedco Trees, PO Box 520, Clinton, ME 04927
www.fedcoseeds.com/trees

Orders for scionwood and early shipment rootstock must be submitted by
February 17, 2023

(From mailing label) CC-

Farm or Group Name

Name

US Mail Delivery Address

Town St Zip

Street Address (if different)

Town St Zip

Phone

Email

Delivery:

☑ Ship around March 13.
Sorry, we cannot ship scionwood at other times.

Scionwood Total from reverse	
Rootstock Total from reverse	+
Subtotal	=
Volume Discount only orders received by 1/13/23	–
Fedco Member? 1% Discount from Subtotal	–
Adjusted Total	=
Shipping	+
Sales Tax (if your state is listed)	+
Order Total	=
Optional $2 to defray catalog mailing cost	+
Grand Total	=

Volume Discounts

Subtotals $100 and over	take 5% off
$300 and over	take 10% off
$600 and over	take 15% off
$1200 and over	take 20% off

Shipping Rates

We ship via FedEx or Priority Mail, our choice.
If you *require* postal delivery (all PO Boxes), use the Alaska/Hawaii rates.

1) Maine

All item #s begin with **L**: Maine Small & Light flat rate	$10
Otherwise, Maine regular flat rate	$25

2) Alaska, Hawaii, or addresses that ***require*** **postal delivery**

Adjusted Total up to $129.00	$27
Adj Total more than $129.00	21% of Adj Total

3) All other U.S. states

All item #s begin with **L** **(Small & Light Shipping)**	Adj Total up to $59.00	$10
	Adj Total > $59.00	17% of Adj Total
Otherwise, Regular Shipping	Adj Total up to $147.00	$25
	Adj Total > $147.00	17% of Adj Total

Sales Tax

ME addresses	—	Pay 5.5% sales tax on Adjusted Total
FL, MA, MD, UT, VA, WY	—	Pay your local tax rate on Adj Total
CT, GA, IL, IN, KS, KY, MI, MN, NC, NJ, NM, NY, OH, PA, RI, TN, VT, WA, WI, WV	—	Shipping is taxable – pay your local tax rate on **Adj Total + Shipping**

Scionwood and early rootstock orders ship around March 13, 2023.
• We'll send an email notification when your order ships.
• We routinely send scions and rootstock during cold weather. Even if your package is shipped in low temps or delayed by snowstorms, the plant material will be okay.
• However, we are not responsible for the quality of plant material in the event your package is not promptly opened once it arrives.

We aim to provide wood that is ¼" in diameter. When only smaller wood is available and we consider it usable, we send it. We do not issue refunds or replacements based on diameter of wood. No refunds for leafed-out rootstock—it's fine to use.

Help support the
Maine Heritage Orchard
by donating refunds for out-of-stock items or overpayments.

❑ Donate up to $25.00
❑ Donate up to $10.00
❑ Donate up to $5.00

• **For information about storing and collecting scionwood**, see page 39.
• **For grafting supplies**, please refer to our Seeds & Supplies catalog, or visit fedcoseeds.com/ogs.

We accept Visa, MasterCard, American Express and Discover Card. Exp. Date

Fedco Trees 2023: Scionwood Find variety descriptions at fedcoseeds.com/trees

Apples	# sticks	# feet
L-801 American Summer Pearmain		
L-802 Arkansas Black		
L-803 Ashmead's Kernel		
L-804 Aunt Penelope Winslow		
L-805 Baldwin		
L-806 Ben Davis		
L-807 Binet Rouge		
L-808 Black Oxford		
L-809 Blenheim Orange		
L-810 Blue Pearmain		
L-811 Brandywine Crab		
L-812 Brown Snout		
L-813 Bullock		
L-814 Burgundy		
L-815 Calville Blanc d'Hiver		
L-816 Canada Reinette		
L-817 Canadian Strawberry		
L-818 Cellar Hole Bitter		
L-819 Centennial		
L-820 Chenango Strawberry		
L-821 Cherryfield		
L-822 Chestnut		
L-823 Cole's Quince		
L-824 Cora's Grand Greening		
L-825 Cortland		
L-826 Cox's Orange Pippin		
L-827 Dabinett		
L-828 Dolgo Crab		
L-829 Duchess of Oldenburg		
L-830 Ellis Bitter		
L-831 Empire		
L-832 Esopus Spitzenburg		
L-833 Fallawater		
L-834 Fameuse		
L-835 Fletcher Sweet		
L-836 Freedom		
L-837 Frostbite		
L-838 Fuel Service		
L-839 Gala		
L-840 Gideon		
L-841 Ginger Gold		
L-842 Gnarled Chapman		
L-843 Golden Pippin		
L-844 Golden Russet		
L-845 GoldRush		
L-846 Gray Pearmain		
L-847 Green Kerr		
L-848 Grimes Golden		
L-849 Haralson		
L-850 Harrison		
L-851 Harry Masters Jersey		
L-852 Hewe's Virginia Crab		
L-853 Honeycrisp		
L-854 Honeygold		
L-855 Ida Red		
L-856 Jonathan		
L-857 Kavanagh		
Column 1 Total		

	# sticks	# feet
L-858 Keepsake		
L-859 King David		
L-860 King of Tompkins County		
L-861 Kingston Black		
L-862 Kola		
L-863 Lady		
L-864 Liberty		
L-865 Lodi		
L-866 Macoun		
L-867 Martha Crab		
L-868 McIntosh		
L-869 Medaille d'Or		
L-870 Melrose		
L-871 Milden		
L-872 Milo Gibson		
L-873 Mutsu		
L-874 Nodhead		
L-875 Northern Spy		
L-876 Northwestern Greening		
L-877 Opalescent		
L-878 Orleans Reinette		
L-879 Pipsqueak		
L-880 Pomme d'Or		
L-881 Pomme Grise		
L-882 Porter's Perfection		
L-883 Prima		
L-884 Priscilla		
L-885 Red Astrachan		
L-886 Redfield		
L-887 Rhode Island Greening		
L-888 Ribston Pippin		
L-889 Roxbury Russet		
L-890 Sand Hill		
L-891 Screen Shot		
L-892 Shavel Sharp		
L-893 Smokehouse		
L-894 Spencer		
L-895 Spice Sweet		
L-896 St. Edmund's Russet		
Column 2 Total		

	# sticks	# feet
L-897 St. Lawrence		
L-898 Starkey		
L-899 State Fair		
L-900 Stoke Red		
L-901 Sweet Sal		
L-902 Sweet Sixteen		
L-903 Tater House		
L-904 Tolman Sweet		
L-905 Trailman		
L-906 Wagener		
L-907 Wealthy		
L-908 Westfield Seek-No-Further		
L-909 Whitney Crab		
L-910 Wickson		
L-911 Williams Pride		
L-912 Windham Russet		
L-913 Winekist		
L-914 Winn Russet		
L-915 Winter Banana		
L-916 Wolf River		
L-917 Yellow Bellflower		
Pears		
L-918 Bartlett		
L-919 Bosc		
L-920 Comptesse Clara Frijs		
L-921 Luscious		
L-922 Nova		
L-923 Patten		
L-924 Seckel		
L-925 Stacyville		
Plums		
L-926 La Crescent		
L-927 South Dakota		
L-928 Toka		
L-929 Underwood		
L-930 Waneta		
Column 3 Total		
Total Number Ordered		

$ Total Sticks @ $6.00 ea.	$
$ Total Feet @ $5.50/ft (Minimum 10 feet per variety)	$

Scionwood sticks are around 8" long with a 1/4" caliper when possible. $6.00/stick.

For larger quantities, order by the foot for $5.50/foot. (10' minimum per variety)

ROOTSTOCK – Bundle of 10

Rootstock is approximately 1/4" caliper.

See page 39 for descriptions.

Rootstock	Price	Qty	$Total
257-B Malus Antonovka	$36.00		
258-B M. Budagovsky 118	$36.00		
259-B M. M111	$36.00		
260-B M. Geneva 11	$39.25		
261-B M. Budagovsky 9	$36.00		
262-B Prunus americana	$36.00		
263-B Prunus avium	$36.00		
264-B Prunus cerasifera	$36.00		
265-B Pyrus OHxF97	$36.00		
Bundles Ordered			

Scionwood for Grafting

- Deadline for ordering scionwood is February 17, 2023.
- Scionwood will be shipped to you around March 13.

The variety list is on the facing order form. Variety descriptions are on our website. Scionwood is shipped only in March. Rootstock can be sent with your scionwood order in March if you select that option. We sell scionwood in two ways:

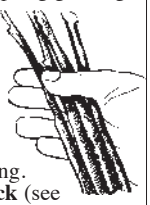
By the stick: One 8" stick ($6 each) will graft 3 or 4 trees.

By the foot: For orchardists grafting large numbers of trees of a particular variety, we also offer scionwood by the foot ($5.50/foot, minimum order of 10 feet). In our own nursery work, we are usually able to graft 6–8 trees from one foot of scionwood.

Storage: You can graft right away or store scionwood for later use. It will keep quite well for several weeks in the fridge or in a cold dark basement, root cellar or shed. Storing scionwood close to freezing temps can be okay, but the very cold temperatures in a freezer will kill it. Scions will also die if they dry out or are stored without special protection from ripening veggies or fruits. We recommend triple plastic bagging your scionwood. There is no need to dampen the scionwood or to insert wet paper towels before bagging it, as this can lead to mold.

What does a person do with scionwood?

Scions are twigs. They have no roots and will not grow if you plant them. They are cuttings from dormant branch tips, intended for spring grafting.



Is grafting easy? Yes, once you get the hang of it. Experienced grafters often have 100% "take" with their grafting. Beginners often have less. While you can learn to graft from a book or video, we highly recommend the old-fashioned way: find a real person to teach you. MOFGA and other organizations have grafting classes every spring. Find one near you!

There are two general ways to graft fruit trees in spring. You can **bench graft** by grafting scionwood onto **rootstock** (see right). Generally we do this indoors in late March or early April. We keep the little grafted trees packed into a bucket of damp sawdust in a warm spot in the house (77–86°) for a couple weeks to break dormancy and promote callus development. Then we harden them off in a cold (but not freezing) place for a week or two before planting out in nursery beds anytime from late April to mid-May. In a couple of years when the trees are 3–6' tall, we plant them in the orchard.

You can also **topwork** scionwood onto established trees. We do our topworking after the trees have begun to show some green growth and the bark slips easily from the wood when cut, but before petal fall. The window for topworking is roughly the whole month of May in central Maine, but often can be successful for a week or so on either end.

We offer grafting supplies in our Seeds & Supplies catalog or online: **fedcoseeds.com/ogs**.

Scionwood Collection at Fedco

Scionwood season at Fedco is a truly hopeful time. Every tiny dormant bud on each stick we ship out has the potential to become a new grafted fruit-bearing tree. Each winter we collect more than 20,000 feet of scionwood from up to 250 varieties of apples, pears and plums! In 2022 we shipped out more than 11,000 feet of scions to customers across the country: first-time grafters, orchardists, apple collectors and cidermakers alike. The rest is distributed to our local growers to propagate most of the fruit trees found in this catalog.

During the frigid days of January and February, scionwood collection is in full swing. We bundle, label and seal the wood in bags to store in our cold warehouse. In March we measure, snip and label the scions for shipping. As our founder John Bunker says, we are passing the baton.

There is no single Fedco Orchard. Over many years John built friendly relationships and collaborated with orchards around Maine. In exchange for the ability to collect this valuable resource, he would offer some time grafting in the spring, pruning in the winter, or perhaps trade some trees from the Fedco inventory. A win-win for all.

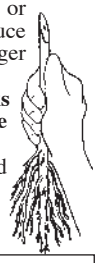
We have also sourced some of our rare and difficult-to-find varieties from out-of-state orchards. For instance, Poverty Lane Orchards in NH, home of Farnum Hill Ciders, was one of the first in the Northeast to grow many of the now popular European cider apple varieties. For years they shared generously with us while we built up our own scion banks. We continue to collect rare and important varieties and graft them into our own orchards to ensure access in the future and to localize and streamline our winter scion collection.

The Scionwood Exchange and grafting workshop

Please join us **Sunday, March 26, 2023,** for the annual Scionwood Exchange and Seed Swap, held every March at MOFGA in Unity, ME. See mofga.org for details and to learn about other organic orcharding classes and events.

Hardy Rootstocks for Grafting

We consider these to be some of the best rootstocks for home or commercial use. Even without grafting, any of these will produce fruit suitable for wildlife. For rootstocks not listed, or for larger calipers or larger quantities, please contact us for information.



Because of the way they are propagated, clonal rootstocks (B118, M111, G11, B9 apples and OHxF97 pear) rarely come with more than a few roots.

You can receive your rootstock sooner—shipped around March 13—if you select the early shipment option online, or use the scionwood paper order form. Otherwise, your rootstock will be shipped during our regular schedule later in March or April.

Please note! We do our best to provide 1/4" caliper stock, but we cannot guarantee scion or rootstock diameter. Because of factors beyond our control (like weather!) stock may be 3/16–3/8".

***Malus* 'Antonovka'** (Apple) Hardy Russian seedling rootstock for full-sized "standard" apple trees. The hardiest rootstock we offer. Space trees 20–30' apart. **Note: Straight, unbranched Antonovka stock is not available this year.** This stock will have more fibrous root systems than the rootstock we typically offer, and they will be branched. We are confident you will be able to graft with them, but if you're worried, consider ordering a different rootstock this year. **We will not refund you if you are unsatisfied with their form.** Z3.

***257A** Malus Antonovka, bundle of 10, $36.00*

***Malus* 'Budagovsky 118'** (Apple) [Moscow Pear x (M8 and M9 pollen)] Michurinsk College of Ag, Michurin, Russia. Also called **Bud 118** or **B118**. Semi-dwarf rootstock, about 85–90% of standard. Sometimes referred to as a "semi-standard" or even a standard. Space trees 20–25' apart. More productive and precocious (fruits at a young age) than trees on Antonovka. Very winter hardy and soil adaptable. Generally not used in commercial orchards due to its large size. Note that reddish cambium does not scrape green like other rootstocks. Moderately resistant to collar rot and fireblight. Z3.

***258A** Malus Budagovsky 118, bundle of 10, $36.00*

***Malus* 'M111'** (Apple) [Northern Spy x Merton 793 (Northern Spy x East Malling11)] Collaborative intro of East Malling Research Stn and the John Innes Institute, Merton, England, about 1950. Technically named MM111, the MM refers to Malling and Merton. Very popular semi-dwarf rootstock produces a tree about 65–80% of standard. Space trees 15–20' apart. No staking necessary. Slightly more precocious than standards. Well anchored and adaptable to a wide range of soils. Resistant to woolly aphid. Prone to suckering. Not nearly as long-lived as standards. Hardy to Z4, maybe Z3.

***259A** Malus M111, bundle of 10, $36.00*

***Malus* 'Geneva 11'** (Apple) Also called **G11**. Cornell U intro, NY. Dwarf rootstock produces a tree about a third the size of standard, about halfway between M9 and M26 (a bit larger than Bud 9). Space trees 8–10' apart. Suckers only slightly. Moderately susceptible to woolly aphid. Excellent fireblight resistance. Requires staking and irrigation in most locations. Z4/5.

***260A** Malus Geneva 11, bundle of 10, $39.25*

***Malus* 'Budagovsky 9'** (Apple) [M8 x Red Standard (Krasnij Standart)] Also called **Red-leafed Paradise** or **Bud 9**. Michurinsk College of Ag, Michurin, Russia, 1946. Dwarfing rootstock, produces a tree about a quarter the size of a standard tree. Highly productive and precocious with large fruit size. Very hardy though not as hardy as Antonovka. In most locations, requires mulching, staking and irrigation. Space trees 5–10' apart. Note that reddish cambium does not scrape green like other rootstocks. Some resistance to fireblight. Z4.

***261A** Malus Budagovsky 9, bundle of 10, $36.00*

Prunus americana (Plum) Seedling rootstock for American, Japanese or hybrid plums. Also recommended for grafting peaches. Seedling plum produces very decent 1" fruit without grafting. The best pollinator for hybrid plums. (See explanation in plum section on page 25.)

***262A** Prunus americana, bundle of 10, $36.00*

***Prunus avium* 'Mazzard'** (Cherry) The rootstock we use for grafting sweet and pie cherries. Shallow spreading root system. Longer lived than Mahaleb though not as hardy. Does not do well in heavy poorly drained soils. Z4, sometimes Z3.

***263A** Prunus avium Mazzard, bundle of 10, $36.00*

***Prunus cerasifera* 'Myrobalan'** (Plum) Seedling rootstock for European plums. Not recommended for American or hybrid plums. Z3.

***264A** Prunus cerasifera Myrobalan, bundle of 10, $36.00*

***Pyrus* 'OHxF97'** (Pear) (Old Home x Farmingdale 97) Produces a vigorous hardy well-rooted almost-standard-sized tree. Superior to *Pyrus communis* in numerous ways, and can be used for both European and Asian pears. We use "97s" for most of our Fedco catalog offerings. Z3/4.

***265A** Pyrus OHxF97, bundle of 10, $36.00*

Nuts

The nut seedlings we're offering are grown from nuts harvested from the most productive specimens. Like all seedlings, each one is a little different, and nut quality may vary.

***Castanea dentata* American Chestnut** Up to 100' Before 1900 American chestnut was one of the most important deciduous trees in the eastern U.S. The arrow-straight rot-resistant wood was used for everything from mine timbers to musical instruments. Delicious sweet nuts were an important food for wildlife and humans. Chestnut blight showed up in Brooklyn, NY, in 1904; within 50 years it killed virtually every chestnut tree in the eastern U.S. The blight does not kill the roots however, and rare stands of mature trees can still be found. In July 2015, the tallest American chestnut in North America was discovered in Lovell, Maine, by researchers who spotted the profuse white blossoms from the air. The trees we offer are not immune but are likely to thrive in a suitable site for 10–30 years without blight. Fast growing and straight trunked with a wide-branching magnificent rounded crown. Fragrant white blooms in July. Ribbed sharp-toothed lustrous dark green foliage. Yellow fall color. Prefers loamy well-drained acidic soil and full sun. **Two or more needed for pollination** but will cross-pollinate with Asian, European and hybrid chestnuts. Precocious, bearing heavy crops of nuts in 10 years. From each American chestnut purchase, Fedco will donate $3 to support the American Chestnut Foundation Maine Chapter's traditional breeding program. Z4. **ME Grown.** (2-5')

***433A** American Chestnut, $28.25*

***Corylus americana* American Hazelnut** 12-18' x 10-15' Also called **American Filbert**. Squirrels, blue jays and humans alike relish the sweet tasty 1/2" nuts of this multi-stemmed rounded native shrub. Usually bears 3–5 years after planting. Collect the crop as soon as the husks begin to brown and lose their sticky yellowness. In central Maine that's around the third week of September. Showy catkins in spring. Dark green serrated foliage in summer. A patchwork of reds, yellows, oranges and greens in autumn. Suckers from the roots. Excellent for naturalizing in thickets. The main pest is nut weevil, which leaves a "hit" mark on the nut shell. (Raking up drops and spraying Surround may help with this.) Prefers well-drained soils; pH adaptable. Full sun or light shade. May be self-fruitful but **for best nut sets, plant more than one**, 4–6' apart. Native to U.S. Z4. (1-3')

***435A** American Hazelnut, $20.00*
***435B** American Hazelnut, bundle of 5, $90.00*

Fedco does not support genetically engineered Seeds or Trees. At our 1996 Annual Meeting, our cooperative voted unanimously not to knowingly offer for sale any genetically engineered variety because the gene technologies may pose unacceptable risks to the environment. Similarly, we have supported the campaign to stop GE Trees and taken a stance against the release of genetically engineered chestnuts. For more about this pledge, our commitment to testing for GE contamination, and talks on GE by Fedco founder CR Lawn, please go to fedcoseeds.com/seeds/genetic_engineering.htm.

Please read our extended discussion of the genetically engineered chestnut at fedcoseeds.com/trees/ge-trees.htm

***Juglans cinerea* Butternut** 40-60' x same. Very large impressive rounded shade tree produces edible nuts. Broad open crown, distinctive compound leaves on large arching branches that can hang nearly to the ground. Leafs out relatively late in spring. Use the oblong edible nut to make oil, or pickle the soft young nut for snacking. Husks yield a yellow-orange dye. Very nice cabinet wood referred to as **White Walnut**. Prefers moist rich deep soils but will grow in dry rocky conditions. Give it full sun and plenty of space. Susceptible to butternut canker, which has devastated many wild specimens. Some lovely old trees are thriving in Belfast, Belmont and Newburgh, ME, and may have been back-crossed long ago to include genes resistant to the canker. These seedlings are from nuts we harvested from some of those old Maine trees. **Self-fertile but plant two for more abundant crops.** Native New Brunswick to Georgia. Z3. **ME Grown.** (1-3')

***436A** Butternut, $21.50*

***J. nigra* Black Walnut** 70-90' A spectacular shade tree with a magnificent open rounded crown of massive limbs with dark green leaves. Harder to crack than commercial English walnuts but worth the effort for their distinct sweet earthy rich flavor. Eat them chopped on salads, or with dark chocolate for dessert. Highly valued cabinet and veneer wood. Husks, leaves and roots common in herbal medicine for anti-fungal properties. Husks also yield a rich brown dye. Deep taproot. Prefers moist well-drained soils, pH 6–7. Roots give off a compound called juglone that inhibits some plants, so don't plant one too close to your garden. Space trees about 50' apart for nut production, 20' apart for lumber. May begin to bear fruit in 5–10 years. Some say multiple trees needed for pollination but we've seen enough solo trees with large nut crops to say **you only need one**. Native to eastern U.S. though not quite into Maine, yet many majestic and productive specimens can be found near old homes and farmsteads throughout the state. Z4. (1-3')

***437A** Black Walnut, $19.00*

***J. regia* 'Carpathian' Walnut** 30-50' x 40' Species sometimes called **English Walnut** or **Persian Walnut**. Very large open somewhat vase-shaped fast-growing tree with those edible nuts you buy in the store. Traditionally used in Europe for salad oil. Has the same alternate pinnately compound foliage as black walnut but glossy blue-green leaves are larger and more rounded, almost tropical looking, and shells are a bit easier to crack. Prefers light deep dry loamy soil. Bears in 5–7 years. **Considered self-fertile but plant two for more abundant crops.** In the 1930s, this strain was brought to North America from the cold Carpathian Mountains in Poland. Native from southeastern Europe east to China. Z4. **ME Grown.** (1-3') *Supply limited—order early!*

***438A** Carpathian Walnut, $21.50*

For the Record

In a 2021 edition of *Arnoldia* (the quarterly publication of Harvard's Arnold Arboretum), Jonas Frei shed some light on the walnut family's (Juglandaceae) long history spanning continents. Fossil records in Europe are teaching us that the Juglandaceae, while associated with North America in modern taxonomy, were once common in European forests. They preceded the ice ages and migrated around Europe responding to periods of fluctuating temps with some going extinct only a few hundred thousand years ago. Currently, they are not widely represented in the European landscape. Up until now, we considered the butternut a solidly American tree, but fossils of *Juglans bergomensis*, which is indistinguishable to the eye from the American *J. cinerea* butternut, have been found in the Rhine Valley of Germany. More butternut fossils dating back millions of years have popped up in Japan and the southern U.S.

With the evolution of seed-carrying mammals like squirrels, some Juglans descendants cropped up in places like South America, southeast Asia and India. Over ten million years rodents and crows helped disperse the walnut family across the entire global northern hemisphere. At a much faster pace, humans moved plants like the Carpathian walnut and pecan along the Silk Road and as far as Africa, Australia and New Zealand. If walnuts could speak of their ancestral travels, they would have many stories to tell of adventure, weather and the rise and fall of plant and human communities across the globe.

Many butternuts in North America have hybridized and carry genes of the Japanese walnut *J. ailantifolia*—we suspect this includes the butternut seedlings we offer in this catalog. These genes allow them to resist the fatal butternut canker disease. From one perspective, this hybridization allows us to have mature butternuts and more food for people and animals while preserving a beautiful shade tree. On the flip side, where is the true *J. cinerea* butternut? Can it be preserved?

Many questions face our restoration efforts, and when we try to better understand plants in a wider ecological and evolutionary context, the issues become more complicated. If the plants can't migrate fast enough from their native ranges to deal with human-made climate and habitat changes, do we have a responsibility to help them get around? How involved should we get?

Shade Trees

***Acer saccharum* Sugar Maple** 50-100' Largest of our native maples, also known as **Rock Maple**, valued for shade, syrup and lumber. A New England tradition was to plant a pair of sugar maples in front of the farmhouse on the inhabitants' wedding day. Those "wedding trees" still grace many Maine front yards. Famous for its yellow, gold, scarlet and crimson fall foliage and its fresh sap that's boiled down to make real maple syrup. Huge upright spreading form with light grey bark. Shade tolerant, making it easy to interplant in existing woods. Prefers moist well-drained soils. Cold hardy. Sensitive to salt and air pollution; not a good city tree. Native Quebec to Gulf Coast. Z3. (2-4')

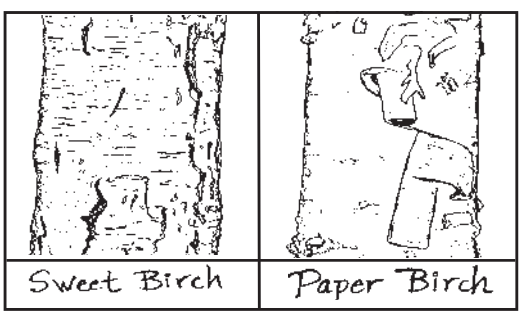
***445A** Sugar Maple, $17.50*

***Betula lenta* Sweet Birch** 40-80' x 35-45' Also called **Black Birch** or **Cherry Birch**. Graceful horizontal branches on a medium-sized tree with a rounded irregular wide-spreading crown. Glistening smooth reddish-brown to black bark forms scaly plates on mature trees. Lustrous dark green foliage turns splendid golden-yellow in fall. The best birch for birch beer, brewed from its copious sap. One of the main sources of oil of wintergreen. Chew the dormant twigs, or brew a delicious tea from twigs and leaves. Also valued as beautiful furniture wood. Pendulous 3–4" catkins dangle from the shiny bronze branches in spring. Prefers deep rich moist slightly acid well-drained soils, but adapts to most conditions except heavy clay. Sun to part shade. Native to eastern U.S. Z3. **ME Grown.** (1-3') *Supply limited—order early!*

***446A** Sweet Birch, $20.75*

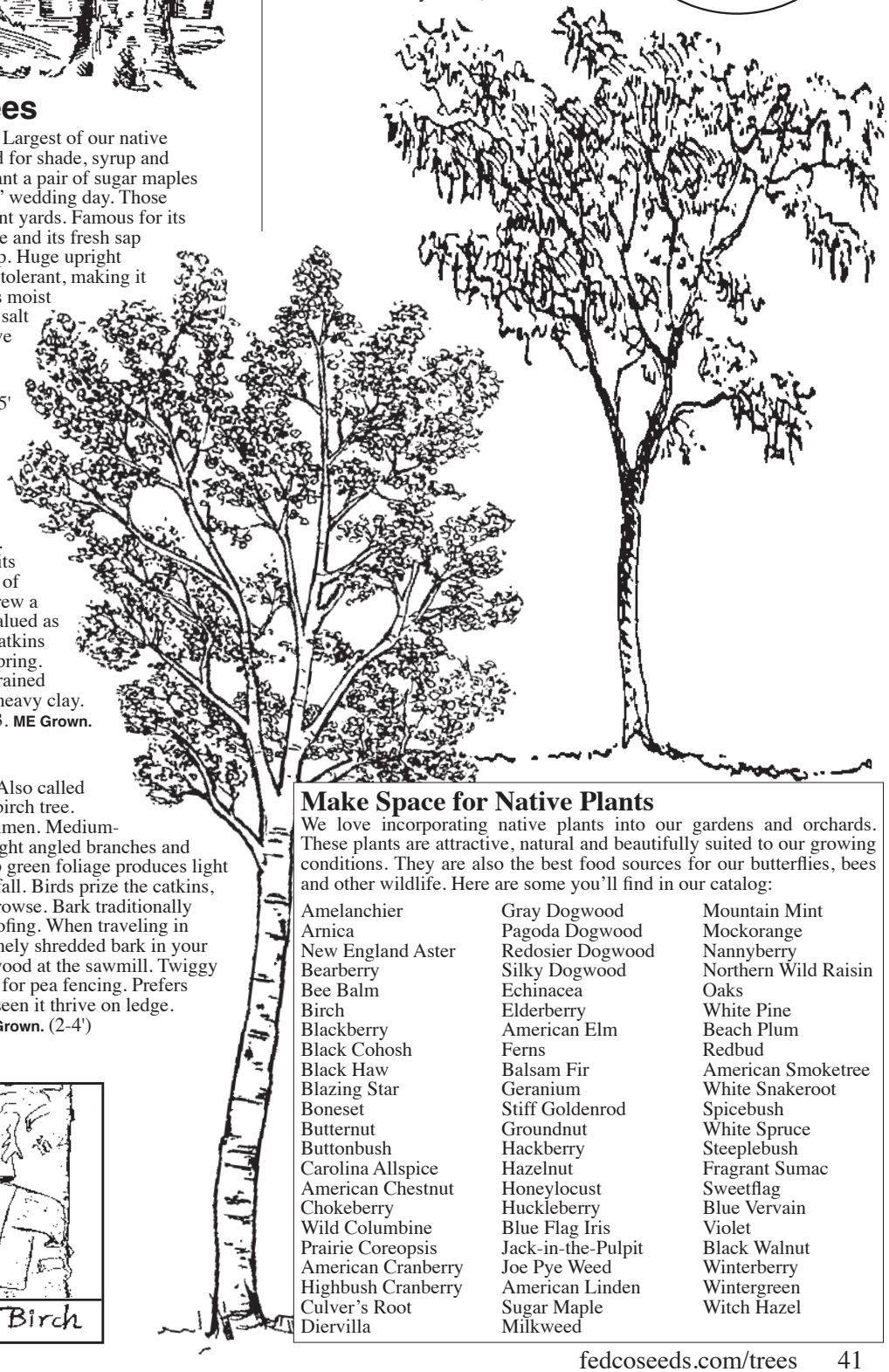
***B. papyrifera* Paper Birch** 30-70' x 30' Also called **Canoe Birch** or **White Birch**. The classic birch tree. Elegant as a single- or multi-stemmed specimen. Medium-sized tree with an irregular oval shape, upright angled branches and magnificent chalk-white peeling bark. Deep green foliage produces light shade in summer and turns clear yellow in fall. Birds prize the catkins, buds and seeds. Twigs are a favorite deer browse. Bark traditionally used for building canoes, containers and roofing. When traveling in the north country, keep a small bundle of finely shredded bark in your pocket to kindle the nightly fire. Valuable wood at the sawmill. Twiggy branches, stuck into the ground, are perfect for pea fencing. Prefers moist well-drained acid soil though we've seen it thrive on ledge. Native to northern North America. Z3. **ME Grown.** (2-4')

***447A** Paper Birch, $19.00*



***Gleditsia triacanthos* Honeylocust** 50' x 30-35' Beautiful fast-growing pyramidal leguminous nitrogen-fixing tree. Bright green lacy leaves provide filtered light, making it good for "two-story" agriculture or great shade for the lawn. Subtle greenish-white flowers turn to sugary pods suitable for cattle or pig forage or even ethanol. Traditionally pods were dried, ground as flour. Good for erosion control and often used as a street tree. Plant in full sun, well-drained soil. Tolerates drought, pollution, salt, disease and insects. May have thorns. Native to eastern U.S. Z4. (1-3')

***448A** Honeylocust, $19.00*



Make Space for Native Plants

We love incorporating native plants into our gardens and orchards. These plants are attractive, natural and beautifully suited to our growing conditions. They are also the best food sources for our butterflies, bees and other wildlife. Here are some you'll find in our catalog:

- Amelanchier
- Arnica
- New England Aster
- Bearberry
- Bee Balm
- Birch
- Blackberry
- Black Cohosh
- Black Haw
- Blazing Star
- Boneset
- Butternut
- Buttonbush
- Carolina Allspice
- American Chestnut
- Chokeberry
- Wild Columbine
- Prairie Coreopsis
- American Cranberry
- Highbush Cranberry
- Culver's Root
- Diervilla
- Gray Dogwood
- Pagoda Dogwood
- Redosier Dogwood
- Silky Dogwood
- Echinacea
- Elderberry
- American Elm
- Ferns
- Balsam Fir
- Geranium
- Stiff Goldenrod
- Groundnut
- Hackberry
- Hazelnut
- Honeylocust
- Huckleberry
- Blue Flag Iris
- Jack-in-the-Pulpit
- Joe Pye Weed
- American Linden
- Sugar Maple
- Milkweed
- Mountain Mint
- Mockorange
- Nannyberry
- Northern Wild Raisin
- Oaks
- White Pine
- Beach Plum
- Redbud
- American Smoketree
- White Snakeroot
- Spicebush
- White Spruce
- Steeplebush
- Fragrant Sumac
- Sweetflag
- Blue Vervain
- Violet
- Black Walnut
- Winterberry
- Wintergreen
- Witch Hazel

***Quercus* Oak** Many oaks are native to New England. They are generally divided into two groups: the reds and the whites. The reds have pointier leaves and the whites have rounder ones. Most of them make absolutely breathtaking shade trees, creating a major presence in almost any landscape and providing bountiful forage for wildlife and for humans. The strongly astringent inner bark, foliage and acorn caps are all medicinal, and acorns were an extremely important human food source for thousands of years. Contrary to much of the literature, all acorns are edible, both reds and whites. (For instructions on acorn processing, see Samuel Thayer's book *Nature's Garden*.) The tannins from a handful of oak leaves added to homemade half-sours will keep pickles crisp for months. These oaks are all native to eastern North America. **Oaks are monoecious so you need only one to get acorns.** (1-3')

***Q. alba* White Oak** 50-80' x same. Spectacular broad irregularly rounded oak with low-lying branches that stretch out horizontally from the trunk, sometimes as far as 50'. Bark is finely grooved and etched. Wood is valued for lumber and firewood. Once common along the Maine coast, it was almost entirely stripped for boat-building lumber more than a century ago. Some extremely fine specimens in Maine grow on Swan Island in the Kennebec River. Soil adaptable, though prefers deep moist well-drained acid conditions, full sun. Thrives where fallen leaves can be left around the base; avoid soil compaction, even foot traffic. Disease and insect resistant, drought tolerant. Slow growing and extremely long-lived. Z3.

***450A** White Oak, $21.00*

***Q. bicolor* Swamp White Oak** 50-60' x same. Also called **Bicolor Oak**. A massive rounded shade tree with a short deeply ridged trunk and a fan of branches, the uppermost ascending and the lower drooping. The contrast between the light grey bark and the dark trunk fissures is particularly striking. Called Swamp White in recognition of its affinity for the wild low wetlands that once peppered eastern North America before the days of the parking lot and the Big Box. Called Bicolor because its large thick leathery lobed leaves have a glossy dark green upper surface and a white to greyish-green hairy felty underside. Its large 1 1/2" sweet acorns are highly attractive to wildlife, particularly waterfowl, sapsuckers and squirrels. Its yellow to reddish-purple fall foliage persists until spring. Prefers moist acid soils where drainage is poor, but exhibits excellent drought resistance as well. Very fast growing once established. Z3.

***451A** Swamp White Oak, $21.00*

***Q. macrocarpa* Bur Oak** 70-80' x same. Hardiest of the white oaks with a deeply grooved massive trunk and a wide-spreading crown of huge branches. Small branches are distinctively corky, winged and tend to twist and kink. The habit is upright and somewhat vase-shaped. Lustrous dark green foliage and large 1–2" acorns, each almost entirely enclosed in a fringed cup. These are edible and low in tannic acid; when roasted they reportedly make a decent coffee substitute. The most urban-tolerant oak. Fairly fast growing. Needs full sun but adaptable to a wide range of soil types including clay. Z3.

***452A** Bur Oak, $21.00*

***Q. velutina* Black Oak** 50-60' x same. Also called **Yellow Oak**. Smooth grey bark becomes fissured and black with age. Inner bark is yellow and was formerly used in tanneries as a dye. Glossy lobed dark green leaves are pointed and hairy on the undersides. Acorns are 1/3–3/4" long and half-enclosed by the cap. Once a tree for interior finish work, ships, pallets and dowels. The Maine state champion tree in Fryeburg rings in at 73' tall with a spreading crown of the same width. Typically found growing in southern Maine but is worth trialing elsewhere—it may begin to thrive farther north in our changing climate. Common to upland forests. Z4.

***453A** Black Oak, $16.00*

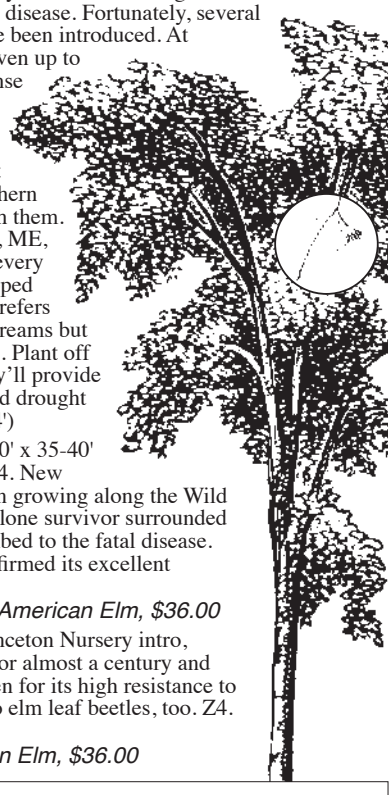
***Salix alba* 'Tristis' Niobe Weeping Willow** 50x50' The classic weeping willow, a very large majestic graceful wide-spreading tree. Golden drooping branches, which can hang to the ground, are used for basket weaving; golden bark and leaves used medicinally. Harvest twiggy branches in early spring to make a tincture. Buzzes with life when May flowers attract loads of pollinating bees. Native to southern Europe and western Asia. Z4. (2-4') (More willows on page 50.)

***454A** Tristis Niobe Weeping Willow, $18.75*

***Tilia americana* American Linden** 60-80' x same. Also known as **Basswood**, **Butterwood** and **Lime**. Tall stately long-lived tree with rounded crown and numerous low-hung spreading branches. Sweetly fragrant yellow June flowers will attract all the bees in the neighborhood, make the best honey, and also make a popular after-dinner tea and stomach remedy. Sprinkle them on your salad for a festive treat. The young half-size foliage makes a high-quality salad green. Excellent carving wood. Fibrous inner bark used for making cordage. Yellow fall color. Prefers deep rich moist soils. Full sun or partial shade. Sensitive to salt and pollution. Native from New Brunswick to Virginia. Z3. (2-4')

***455A** American Linden, $20.00*

***Ulmus americana* American Elm** Large fast-growing graceful native once lined virtually every street in New England but declined dramatically due to Dutch elm disease. Fortunately, several disease-resistant cultivars have been introduced. At maturity the trunk can be 4' (even up to 8'!) in diameter with an immense vase-shaped canopy. Long pendent branches blow and sway in a hazy breeze on hot summer days. One of the most wonderful shade trees for northern climates. We're infatuated with them. If you find yourself in Castine, ME, visit the huge old elms lining every street; you'll feel like you stepped back in time. Soil adaptable, prefers moist areas along rivers and streams but also grows well in drier places. Plant off the corners of a house and they'll provide all the shade you need. Salt and drought tolerant. Plant more elms! (2-4')



***U. a.* 'Prairie Expedition'** 60' x 35-40' ND St U Res Foundation, 2004. New selection from a wild specimen growing along the Wild Rice River near Fargo, ND. A lone survivor surrounded by other trees that had succumbed to the fatal disease. Further studies at U Minn confirmed its excellent resistance. Z3.

***456A** Prairie Expedition American Elm, $36.00*

***U. a.* 'Princeton'** 60x70' Princeton Nursery intro, 1922. A standard in the trade for almost a century and still in wide circulation. Chosen for its high resistance to the disease. Good resistance to elm leaf beetles, too. Z4. **ME Grown.**

***457A** Princeton American Elm, $36.00*

Pollination clarification

Self-pollinating, **self-fertile** and **self-fruitful** all mean the same thing. You can plant a self-fertile tree and expect it to pollinate itself and set fruit alone (for example, peaches, pie cherries, apricots). However, many self-fertile trees' fruit sets are enhanced with multiple plantings (elderberries and *Amelanchiers*). **Self-sterile** or **self-infertile** means that another tree of a different cultivar or variety is needed to set fruit (cross-pollinate). This is the case with most apples. **Monoecious** (from Greek meaning 'one household') plants have their female and male parts on separate flowers both together on the same plant. In most cases, these plants are self-fertile,. **Dioecious** ('two households') plants have either all male or all female flowers on separate individuals. You would need to plant one female and one male to achieve pollination.

When you buy unsexed seedlings, you generally have a 50-50 chance of getting one sex or the other (e.g. spicebush and bayberry). **Bisexual** or **perfect** flowers contain both male and female components within the same flower. Some plants with perfect flowers will be self-fertile, some will not. Often, specific cultivars or varieties have perfect flowers but they cannot pollinate themselves and need other varieties to do it for them (apples and blueberries).

Conifers

***Abies balsamea* Balsam Fir** 45-75' One of the most abundant of our native conifers. Narrow, conical, smooth-barked. Twigs, inner bark, needles and sap are all medicinal. Small "blisters" contain a transparent aromatic resin that has been traditionally used as an inhalant for headaches and congestion, and as a salve for cuts and arthritis. Needle tea is rich in vitamin C. The fragrant boughs are a favorite for wreaths; the needles used in scented pillows and potpourri. The best of all conifers for a Christmas tree! Prefers well-drained moist acid soil. Avoid polluted areas. Semi-shade tolerant, slow growing. Good hedge or specimen tree, songbird nesting area or rabbit thicket. Native from Labrador to upper eastern U.S. Z3. (6-12")

***461A** Balsam Fir, bundle of 5, $22.00*

***Picea abies* Norway Spruce** 80-100' Fast-growing wide-spreading upright picturesque tree with graceful long pendulous branches that often reach the ground. Largest of the spruces. If you go to the Mt. Auburn Cemetery in Cambridge, MA, don't miss the ancient Norway spruce just inside the front gate. Several of its massive drooping branches have rooted and turned into secondary trunks. It is truly amazing. Orange-brown scaly bark. Excellent lumber. Showy 4–6" cones. Bright green foliage. Plant in full sun to part shade. Prefers loam but tolerates poorer soils better than other spruces. Native to northern Europe. Z2. (16-24")

***463A** Norway Spruce, bundle of 5, $23.50*

***P. glauca* White Spruce** 60-80' Conifer native to boreal forests, subalpine regions and Acadian forests of North America ranging from Alaska to Newfoundland. Northernmost trees nearly reach the arctic and will withstand winter lows of –70°. Diameter of trunk reaches up to 2'. One of the best trees for wind blocks and privacy screens. Wood commonly used for lumber, pulp and paddles. Harvest bright green spruce tips in late May to early June and process into citrusy sugar, syrup, vinegar or cordials. High in vitamin C. Adaptable and tolerant to wind, drought and cold. Full sun. Z2. **ME Grown.** (12-18")

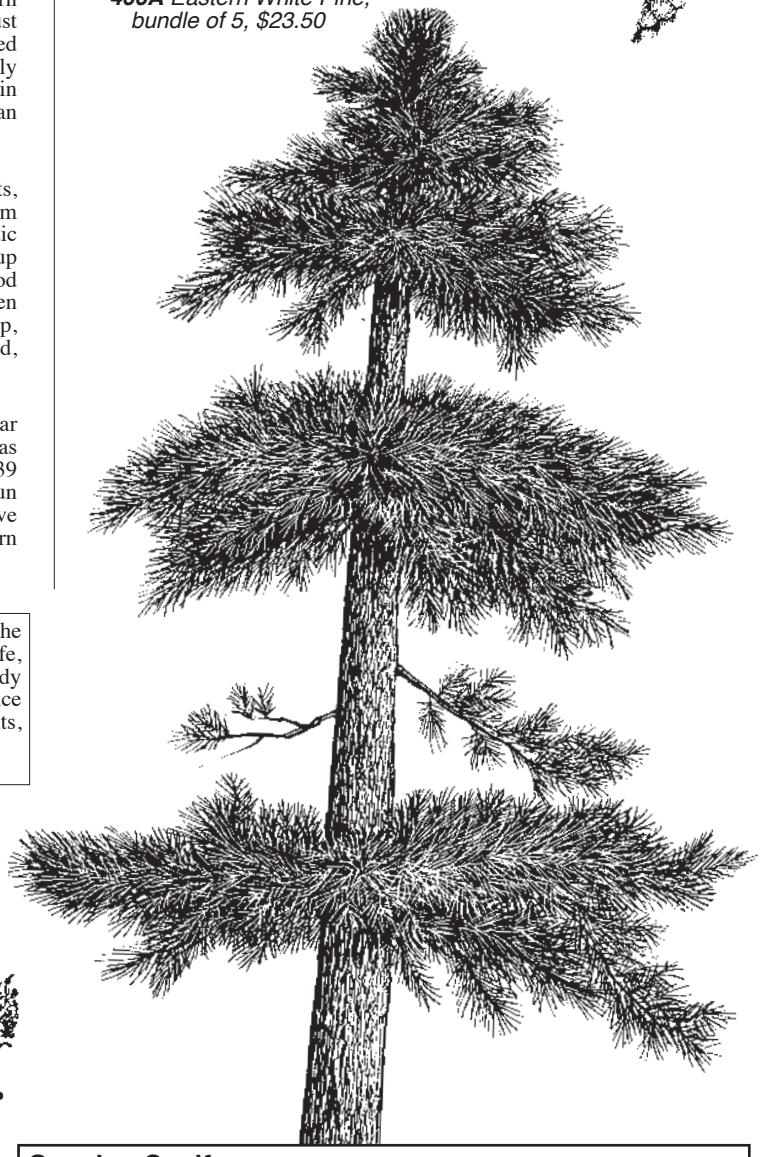
***464A** White Spruce, bundle of 5, $23.50*

***P. pungens* var. *glauca* Colorado Blue Spruce** 30-60' Very popular specimen tree with frosty blue needles. Excellent for privacy screens, as it is fast growing after 3'. A beautiful stand of blue spruce is on Rt. 139 in Benton, just before you cross the Sebasticook River. Plant in full sun to part shade. Does not like wet soil. Extra spring nitrogen will improve blue color, which doesn't appear for the first few years. Native to western U.S. Z2. (18-30")

***465A** Colorado Blue Spruce, bundle of 5, $23.50*

***Pinus strobus* Eastern White Pine** 100-130' or more. The largest northeastern conifer. Magnificent and massive when mature. Smooth greyish-green bark becomes thick, rough and deeply furrowed with age. A cup of pine needle tea has more vitamin C than a cup of orange juice; Native Americans showed early white explorers how to brew it and stave off scurvy. The resin has numerous practical and medicinal applications. Excellent wood with a thousand uses. Grown in the forest it will typically be "clear" (no lateral branches) for the first 30–80'. Planted thickly and sheared, it makes a beautiful hedge that won't drop its lower branches. Likes ordinary to poor—even sandy—soil. Shade tolerant, but does not like salt or roadsides. Fast growing. Native to eastern U.S. Z3. **ME Grown.** (12-18")

***466A** Eastern White Pine, bundle of 5, $23.50*



Agri-gel A hydrogel formulation that absorbs and holds water. The swollen crystals adhere to plant roots, reducing transplant shock. Safe, nontoxic, easy to use. Useful for garden seedlings as well as woody plants. Highly recommended for raspberries and conifers. Half-ounce packet mixed with 1 to 3 gallons of water will treat up to 100 cane plants, or 50 trees and shrubs. Not allowed for organic certification. 1/2 oz.

***L622A** Agri-gel, $4.00*

Growing Conifers

Conifers tolerate a wide range of soil conditions, but prefer slight acidity. If you are planting in dry or well-drained areas, dip tree roots in a solution of Agri-gel before planting to protect roots from drying out. Do not *soak* conifers in the Agri-gel solution; a good dipping is sufficient.

Before planting, shear back the roots by about a third of their length. Dig a small hole or make an incision with a spade or planting bar and slip the tree in to the level it grew in the nursery. Fan the roots out. It is better to prune the roots than to crowd them in the hole. Water well and pack the earth down with your feet to remove air pockets.

Periodic deep watering is far more beneficial than frequent sprinkling. Fertilization is not necessary in the first year. In later years you may fertilize around the drip line.

To make evergreens dense and compact, remove the central leader and the center bud on the end of each side branch.

Small Trees and Shrubs

As Green's Nursery catalog from 1904 explains, "There are many trees that by pruning can be made to resemble shrubs, and many shrubs that by different pruning may be made to produce medium-sized trees."

Amelanchier Also called **Juneberry**, **Parsonberry**, **Serviceberry**, **Saskatoon**, **Shadblow**, **Shadbush** and **Shad**. Folks downeast call it **Wild Pear**. Very hardy genus of spring-flowering shrubs and small trees with edible berries. Beautiful fragrant 5-petaled white flowers are early harbingers of spring in Maine. Purplish-black sweet berries great for grazing or collected for pies, cobblers, jellies, jams, smoothies and cakes. Berries are about the size of a lowbush blueberry, or a bit larger, and seedier. Popular with wildlife. Nice red-orange fall color. Thrives along stream beds as well as on rocky slopes. Tolerates partial shade, salt, pollution and wet spots but not standing water. Considered to be self-fruitful but we recommend planting with other Amelanchiers to ensure pollination. Taxonomy of Amelanchiers are a point of confusion in the nursery trade where common names and even botanical names are used interchangeably. Furthermore, these plants easily hybridize with each other in nature. Below, we've highlighted salient features of each species. (1-3')

A. alnifolia **'Regent' Juneberry** 4-6' x same. J. Candrian intro, Faribault, MN, 1997. An open-pollinated seedling originating near Regent, ND. Compact prolific shrub with sweet purple-magenta berries. Fruit ripens in mid-July in central Maine. Plant in well-drained fertile soil and full sun. Foliage somewhat susceptible to leaf spot or rust but this doesn't affect fruit. Native to northwestern North America. Z2.

472A *Regent Juneberry, $19.25*

A. laevis **Allegheny Serviceberry** 15-25' The most common Amelanchier in Maine. The unique purplish-orange bronzed color of the unfolding leaves on this understory tree is a favorite spring sight. Pendulous white blossoms precede the young leaves and are followed by berries that ripen in midsummer. Referred to as Shad or Shadbush by old-timers because the blossoms coincide with the spring shad run in certain Maine streams. Likes well-drained acid soils along the edge of fields, streams and roads. Native Midwest to eastern U.S. and Canada. Z2. **ME Grown.** **Indigenous Royalties.** *Supply limited—order early!*

473A *Allegheny Serviceberry, $18.75*

Cultivars and varieties

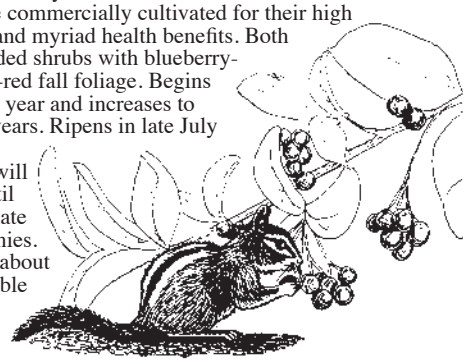
Cultivar is short for 'cultivated variety.' A **cultivar** is a plant that has been bred; it does not occur naturally in the wild.

A **variety** is a plant that occurs naturally in the wild and is chosen for commercial propagation to maintain its genetic characteristics.

In the nursery trade, the terms 'cultivar' and 'variety' are mistakenly used interchangeably. We do it, too. Both cultivar and variety names follow the botanical name (*Genus species*) and are enclosed in single quotes.

In the tree and shrub world, most cultivars and varieties are propagated clonally by cuttings or grafting. When there is no variety or cultivar name after the botanical name, the plant is most likely grown from seed. We often refer to these as "the species" of a plant, or as **seedlings**.

Aronia **spp. Chokeberry** Aronia has gotten a lot of press in recent years as a superfruit: it has wonderful medicinal qualities, works well in a range of culinary applications and is an important wildlife plant in the native landscape. Both red (*A. arbutifolia*) and black (*A. melanocarpa*) chokeberries are edible when cooked, but we emphasize the red for wildlife, while the black may be a better choice for medicine and food. Black chokeberries are commercially cultivated for their high levels of antioxidants and myriad health benefits. Both species are small rounded shrubs with blueberry-sized fruit and electric-red fall foliage. Begins to bear fruit in its third year and increases to full yield around five years. Ripens in late July or early August. If not harvested, the berries will hang on the bushes until songbirds eat them in late winter. Will form colonies. Not particularly picky about where it grows: adaptable to moist or dry areas, sun or partial shade. Native to eastern U.S. **Self-fruitful.** Z3/4. (1-3')



A. arbutifolia **'Brilliantissima'** 6-8' x 3-4' In *The Best of the Hardiest*, John Sabuco calls red chokeberry "one of our finest native landscape shrubs." Upright multi-stemmed form. Dense clusters of small white flowers with red stamens. Birds love the abundant persistent glossy bright red fruit. With "brilliant" fall foliage, this plant is the best alternative to the invasive burning bush. **ME Grown.**

474A *Brilliantissima Red Chokeberry, $18.75*

A. a. **Red Chokeberry Seedlings** 6-10' x 3-6' Each one is genetically unique. Beautiful in mass plantings and borders. Plant several in a hedge and make the birds happy! **ME Grown.**

475A *Red Chokeberry Seedling, $18.75*

A. melanocarpa **'Viking'** 4-6' x same. Introduced in Sweden. Upright vigorous high-yielding shrub produces very large dark tasty berries. Genetic testing has shown Viking to actually be a cross of *A. melanocarpa* and European Mountain Ash (*Sorbus aucuparia*).

476A *Viking Black Chokeberry, $18.75*

A. m. **Black Chokeberry Seedlings** 3-6' x same. Each one is genetically unique. Plant several for an attractive edible hedge. **ME Grown.**

477A *Black Chokeberry Seedling, $18.75*

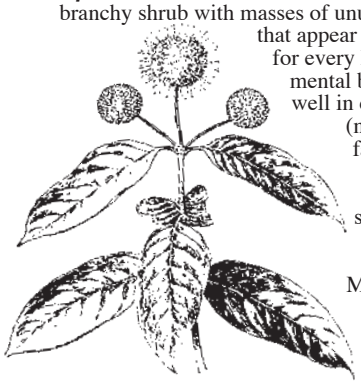
477B *Black Chokeberry Seedlings, bundle of 5, $82.50*

Calycanthus floridus **Carolina Allspice** 6-10' x 6-12' Beautiful aromatic native shrub with unique 1" dark maroon flowers. Blooms as it breaks dormancy in April and May and continues flowering sporadically throughout the summer. Upright flowers resemble small magnolias with petals spiraling into similar-looking sepals, a characteristic of many primitive plants. Highly fragrant blooms reminiscent of pineapples and bananas. Dirr considers it one of the great treasures of eastern North America, especially when allowed to grow into a large open specimen. Flowers on previous year's wood so best pruned in summer. Partial sun and moist rich soil. Native to stream edges and woodlands of southeastern U.S. Z5. (1-3')

480A *Carolina Allspice, $19.25*

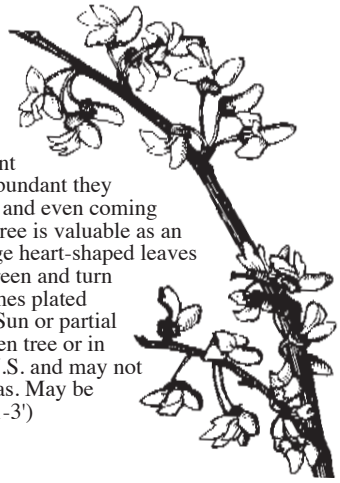
ME Grown = grown in Maine at one of our small local nurseries.

***Cephalanthus occidentalis* Buttonbush** 6-10' x 8' Loose rounded branchy shrub with masses of unusual spherical fragrant white flowers that appear for 4–6 weeks in summer—a magnet for every honeybee around. These highly ornamental blooms the size of ping-pong balls do well in dried flower arrangements. The seeds (nutlets) make good duck fodder in the fall. Bright green foliage. Often found in masses along the shores of New England's rivers and ponds but also suitable for well-drained soil. Recommended in hedges for naturalizing. Native from eastern U.S. to New Mexico. Z4. (1-3')



***481A** Buttonbush, $19.00*

***Cercis canadensis* Redbud**
25-30' x same. Small vase-shaped multi-stemmed tree is highly ornamental with edible flowers and seeds. In early spring, clusters of small brilliant purplish-pink pea-like flowers are so abundant they fill the entire tree, dotting the branches and even coming right out of the trunk. Nitrogen-fixing tree is valuable as an early-season nectar plant for bees. Large heart-shaped leaves emerge opaque pink, mature to deep green and turn yellow in fall. Smooth dark bark becomes plated and brick-red with purple undertones. Sun or partial shade, soil adaptable. Fine as a specimen tree or in groups. Native to central and eastern U.S. and may not reach full maturity size in northern areas. May be tender in colder spots. Z5. **ME Grown.** (1-3')



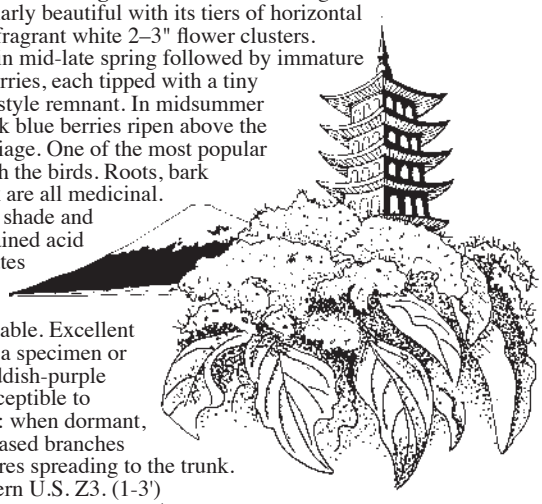
***482A** Redbud, $21.00*

***Clethra alnifolia* 'Ruby Spice' Summersweet** 4-5' x same. Sport of 'Pink Spires', Broken Arrow Nursery, Hamden, CT, 1992. Also known as **Sweet Pepperbush**. Red buds and beautiful spires of heavenly scented deep-pink flowers appear on racemes for six weeks in midsummer. Bees and butterflies love it. Whorls of extremely attractive finely serrated distinctly veined glossy dark green foliage turn deep gold in fall. Dangling racemes of "black peppercorns" persist into the next growing season. Erect oval habit, often suckering to form dense colonies. Slow growing. Prefers acid moist well-drained soils. A good shrub to border streams and ponds. Will tolerate salty coastal conditions. Full sun to shade. Easy to grow. Species native Maine to Florida. Z3. (plugs)

***483A** Ruby Spice Summersweet, $18.50*

"Many thanks for such a beautifully wrapped package with my order. I so appreciate your efficiency and care taken to ship plants and I also appreciate the special [shipping] rate to your Maine residents. I really wouldn't have as interesting yard as I do without your special company and its immense choices for our northern clime. Hats off to the team and all the green joy you bring to the world."
– Lisa from Hope, ME

***Cornus alternifolia* Pagoda Dogwood** 20' x 30-35' Also known as **Alternate-Leaved Dogwood**. Small tree or large multi-stemmed shrub, particularly beautiful with its tiers of horizontal branches and fragrant white 2–3" flower clusters. These appear in mid-late spring followed by immature olive-green berries, each tipped with a tiny bright yellow style remnant. In midsummer clusters of dark blue berries ripen above the blue-green foliage. One of the most popular dogwoods with the birds. Roots, bark and inner bark are all medicinal. Prefers partial shade and moist well-drained acid soil, but tolerates full sun, poor soil and even clay. pH adaptable. Excellent naturalized as a specimen or in groups. Reddish-purple fall color. Susceptible to golden canker: when dormant, prune out diseased branches to prevent spores spreading to the trunk. Native to eastern U.S. Z3. (1-3')



***484A** Pagoda Dogwood, $20.50*

***C. amomum* Silky Dogwood** 8-12' x same. Large rounded long-limbed shrub best suited for naturalizing borders, streams and wetlands. Effective for erosion control, wildlife or pollinator habitat. Medium-fast growing. Creamy white 2" cymes bloom in late spring followed by dark blue berries midsummer. Glossy deeply veined green foliage turns dark purple in fall. Maroon bark is visible in winter. Whether it's the flowers, fruit, or even just the foliage, Silky can be a charming addition to natural areas and songbirds love the berries. Not considered quite as ornamental as other dogwoods, but planted along a woodland trail in dappled light is an eye-catching sight. Prefers moist well-drained soils but will tolerate wet locations. Does not like overly dry areas. Suckers and spreads. Sun or partial shade. Native to eastern U.S. Z4. (1-3')

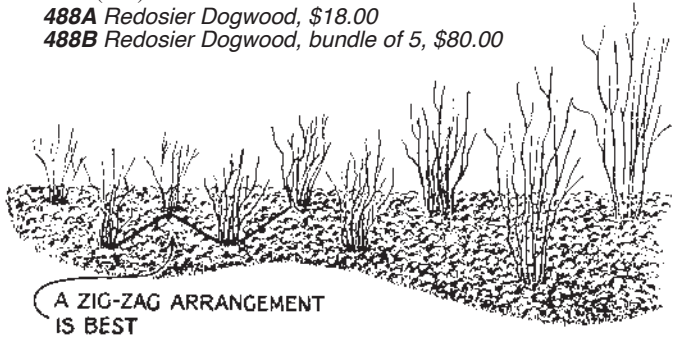
***485A** Silky Dogwood, $18.50*

***C. racemosa* Gray Dogwood** 3-8' x 10-15' Also called **Northern Swamp Dogwood**. Native multi-stemmed thickly branched suckering shrub with rounded domes of small 4-petaled white flowers that bloom in early summer; they look like small hydrangea panicles and will attract many pollinators. White berries appear in autumn, set off by bright red fruit stalks. "Spent" pinkish inflorescences, particularly attractive in winter, look like miniature trees and are sometimes used by architecture students in models. Simple elongated medium-green foliage. Distinctive grey bark. Useful for windbreaks, riparian plantings and attracting birds. The most adaptable dogwood—plant it anywhere and it will grow. Sun or partial shade. Forms colonies in all directions, so choose planting location wisely. Full sun, well-drained soil. Native to eastern U.S. and southern Canada. Z4. (1-3')

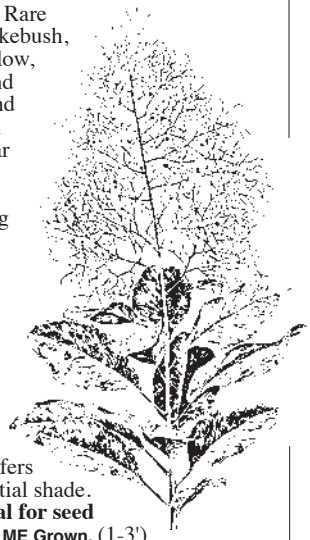
***487A** Gray Dogwood, $17.00*

***C. sericea* Redosier Dogwood** 8-10' Formerly called *C. stolonifera*. Bright red stems are a favorite sight from late fall through early spring, before the foliage emerges. Broad loosely rounded multi-stemmed shrub spreads freely by stolons (underground stems) and forms excellent hedges and borders. Most admirable in the winter when the masses of brilliant stems contrast a backdrop of freshly fallen snow. Bring them inside and enjoy them for wreaths, arrangements and basket-weaving. By June, the stems are hidden by dark green foliage and sprinkled with tiny 4-petaled star-shaped flowers. Whitish berries in 2–3" clusters are popular with dozens of bird species. One of the most valuable of our native wildlife plants. Perfect for swamps, streams and wetlands. Very adaptable to a range of soils and climates, but generally likes wet conditions. Sun or partial shade. Fast growing and easy to transplant. To improve stem color, prune out older stems in the spring. Native to eastern U.S. Z2. (1-3')

***488A** Redosier Dogwood, $18.00*
***488B** Redosier Dogwood, bundle of 5, $80.00*



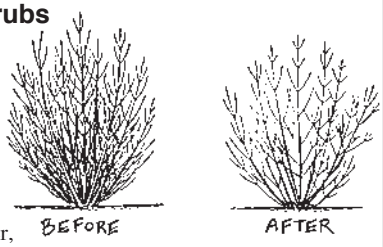
Cotinus obovatus **American Smoketree** 20-30' x same. Also called **Smoke Tree** and **Chittamwood**. Rare and exquisite. (Not to be confused with Smokebush, *C. coggygria*.) Large oval leaves emerge yellow, orange, amber, red and purple, are upright and filter the sun like stained glass. They relax and turn bluish-green as they mature, then put on another color show in fall. Female plants bear 6–10" panicles of tiny yellow-green flowers in early June. As they fade, fuzzy light pink "hairs" emerge and persist all summer, giving the tree a hazy smoky misty quality. These plumes are more subtle than the non-native Smokebush, but the foliage is the real eye-catcher here. Finches love the seeds. Scaly interesting bark. Thought to be a relic tree from 25 million years ago, it almost went extinct during the mid-19th c. when the wood was over-harvested for fence posts, tool handles and orange fabric dye. Allow it to grow several trunks or prune to a single specimen. Tolerates most soils but prefers well-drained infertile ground. Full sun to partial shade. These are unsexed seedlings, so **plant several for seed production**. Native to North America. Z4/5. **ME Grown.** (1-3')



489A *American Smoketree, $21.75*

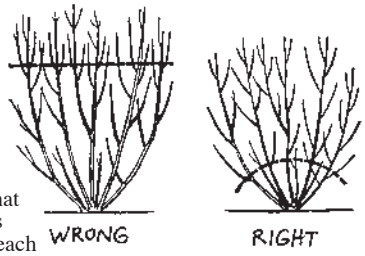
Pruning Flowering Shrubs

• **Summer-Flowering Shrubs** should be pruned in late winter or early spring, before the new wood begins to grow. These shrubs blossom on the new wood they produce in the spring.



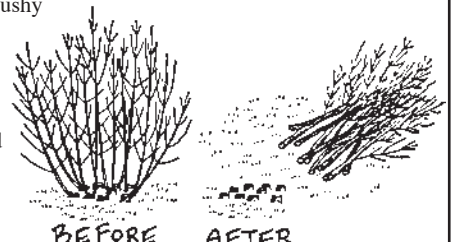
• **Spring-Flowering Shrubs** form flower buds in the summer, after they are finished blooming. Prune them immediately after their bloom is over. If you wait and prune them in the winter or following spring, you will likely remove many flowering buds.

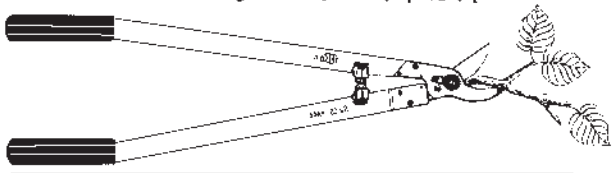
• A common error is to prune or shear shrubs straight across the top. This encourages top-growth and the lower part of the shrub becomes woody and unsightly with less foliage. Proper pruning promotes growth at the base of the shrub.



• Observe your plants and see what they need. Some trees and shrubs benefit from aggressive pruning each year and might even respond well to being cut all the way back to the ground; others will respond by delaying fruit or blossom. Some plants thrive with little or no pruning.

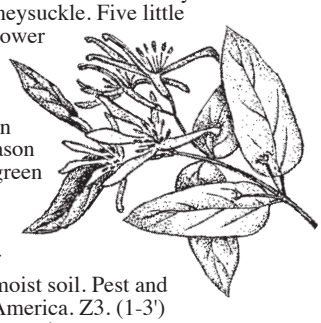
• Overgrown shrubs with little foliage near the base may be rejuvenated by cutting canes down to the ground in early March, even though early blooms may be sacrificed that year. They will send forth new shoots in late spring and will be bushy with foliage clear to the ground. Pinch off tops when the desired height is attained. It usually takes two to three years to rejuvenate shrubs and hedges completely.





A selection of pruning tools and books are available from our **Seeds & Supplies catalog** and through our Organic Growers Supply website: fedcoseeds.com/ogs

Diervilla lonicera **Northern Bush Honeysuckle** 2-4' x 2-5' Also called **Dwarf Bush Honeysuckle**. Don't be fooled by the common name: it isn't really a honeysuckle. Five little bright yellow petals on each tubular flower curl open and away, an invitation to insects, hummingbirds, butterflies and garden tourists. A favorite of the bumblebee. Clusters of flowers form in the axils of new growth. Extended-season bloomer. Long pointed lustrous dark green leaves emerge with a hint of bronze. Excellent for erosion control or mass planting. Full sun to light shade. Tolerates even the poorest soils, but if you want it to naturalize, give it rich moist soil. Pest and disease free. Native to eastern North America. Z3. (1-3')

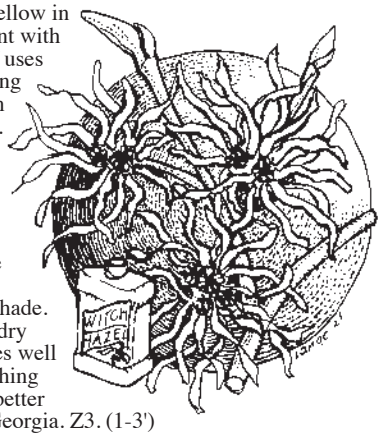


496A *Northern Bush Honeysuckle, $18.75*

Forsythia* x *ovata **'Northern Gold' Forsythia** 6-8' x 5-7' Bred by Felicitas Svejda, Ottawa, Canada, 1979. One of the earliest forsythia cultivars to flower in spring. Upright form with yellow-grey branches clad in healthy rich green foliage. Northern Gold has not only the bud hardiness necessary for flower production above the snow line, but also outstanding golden-yellow flowers. You can have a full bloom every year! Prefers full sun and moderately fertile, slightly acid to neutral soils with good drainage. We cut our first bouquet of the year when we harvest the dormant branches for forcing inside mid-February. Bred from *F. ovata*, a hardy dependably blooming Korean species native to Asia and Europe. Z3. (1-3')

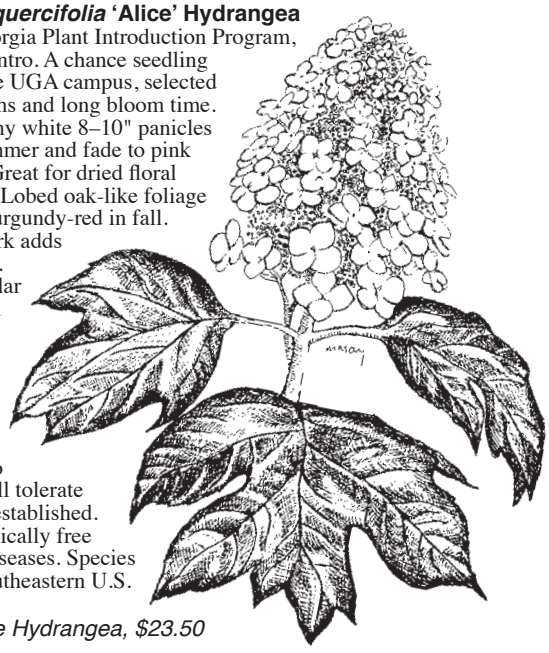
498A *Northern Gold Forsythia, $18.25*

Hamamelis virginiana **Witch Hazel** 8-20' x same. A small irregular rounded fall-flowering medicinal tree or large shrub. Quirky 2/3" yellow flowers appear in early to mid-November. Oval hazel-like textured foliage turns brilliant golden-yellow in fall. Makes a soothing astringent with a seemingly endless number of uses from controlling acne to soothing diaper rash, poison ivy, chicken pox and browntail moth rashes. Most preparations involve simply brewing tea from the leaves and/or twigs. "Witch" is said to refer to the odd flowering time or maybe it's because dowsers like to use the interesting forked branches to "witch" for water. Full sun or shade. Prefers moist acid soils; avoid dry spots. No pests or diseases, does well with very little care. We do nothing to ours and it looks better and better every year. Native Canada to Georgia. Z3. (1-3')



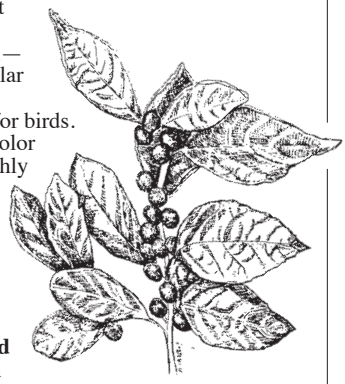
499A *Witch Hazel, $18.25*

Hydrangea quercifolia **'Alice' Hydrangea** 6-8' x 5-6' Georgia Plant Introduction Program, Michael Dirr intro. A chance seedling growing on the UGA campus, selected for large blooms and long bloom time. Fragrant creamy white 8–10" panicles bloom midsummer and fade to pink late summer. Great for dried floral arrangements. Lobed oak-like foliage turns lovely burgundy-red in fall. Exfoliating bark adds winter interest. Upright irregular mounded form works well in groupings or nestled into a perennial garden. Well-drained soil, full sun to part shade. Will tolerate drought once established. Sturdy and typically free of pests and diseases. Species is native to southeastern U.S. Z5. (1-3')



500A *Alice Hydrangea, $23.50*

***Ilex verticillata* Winterberry** Also called **Black Alder**, **Fever Bush**, **Possumhaw**, **Swamp Holly** and more. Deciduous suckering medicinal holly with clusters of upright stems. Best known for profusions of bright red 3/8" berries that stand out after the leaves fall—they keep their color all winter, spectacular against the snow. A staple of the Maine landscape, providing late-spring forage for birds. Lustrous deep green leaves retain their color long after they're cut for decoration. Richly foliated, but open enough to display interesting branch structure. Tiny white flowers in mid-July attract pollinators. Leaves used for tea and tonic, astringent bark used in herbal medicine. Tolerates dry conditions but prefers moist or wet acidic soil, even standing water. Sun or partial shade. No serious pests. **Male and female plants required for fruit**, which is produced on female plants. Plant males within 30' of females. Native from Midwestern to eastern U.S. Z4. (1-3')



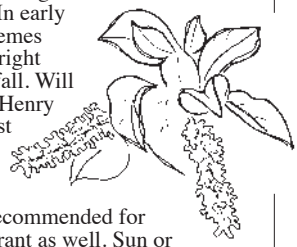
***I. v.* 'Red Sprite'** 3-5' x 4-8' **Female.** USDA intro. Dwarfing variety great for smaller spaces or planted with larger winterberries for variation. Attractive low loose rounded form. **Jim Dandy male required for fruit.**

***501A** Red Sprite Winterberry, $19.00*

***I. v.* 'Jim Dandy'** 3-6' x 4-5' **Male selection** to pollinate Wildfire. One will pollinate several females. Small white flowers line branches in mid-July.

***502A** Jim Dandy Winterberry, $19.00*

***Itea virginica* 'Henry's Garnet' Virginia Sweetspire** 3-5' x 5-6' Swarthmore College, PA. Award-winning spreading shrub with an erect clustered branching habit and arching shoots. In early summer, fragrant white flowers on upright racemes up to 6" long attract a variety of pollinators. Bright green foliage turns brilliant reddish-purple in fall. Will form colonies. Its name commemorates Mary Henry (1884-1967), a distinguished American botanist and pioneer plant explorer. She traveled the North American continent—sometimes on horseback—seeking and collecting seeds and material from interesting native specimens. Recommended for moist or wet areas although quite drought tolerant as well. Sun or shade, soil adaptable. Native to eastern U.S. Z4. (1-3')



***503A** Henry's Garnet Virginia Sweetspire, $18.50*

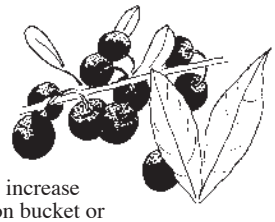
***Lindera benzoin* Spicebush** 6-12' x 8-12' Large rounded multi-stemmed native shrub suited to naturalizing in moist or wet areas, singly or in groups. Soft-yellow flowers early in spring followed by small clusters of glossy red berries (drupes) by mid to late summer. Blue-green foliage turns golden yellow in fall. Edible berries and medicinal twigs and bark. Scratch the berries, foliage or stems and you'll know how it got its name: all three have a delicious lemony spicy scent and can be used as a native alternative to allspice. Leaves, twigs and fruit used in teas. Attracts bees, birds and butterflies. Prefers moist well-drained neutral or slightly acidic soils. Often found in full or partial shade, but at its showiest in full sun. These are unsexed seedlings: **male and female plants required for fruit** so plant several for best results. Only the females bear red fruit. Native to eastern U.S. Z5. (1-3')

***504A** Spicebush, $20.50*

***Philadelphus lewisii* 'Blizzard' Mockorange** 4-5' x 3-4' COPF intro, Alberta, Canada. Medium-sized coarse upright loosely arching ornamental blooming shrub. A "blizzard" of sweet citrusy fragrance from pure white slightly cupped 4-petaled blossoms for up to four weeks in late spring, after the lilacs fade. A spray of golden yellow anthers attractive to bees and butterflies accents each flower. Species was named after Meriwether Lewis who noted it in 1806 during the Lewis and Clark Expedition. Prefers moist rich well-drained soils but will grow well in most conditions. Full sun to partial shade. Since blossoms form on prior year's growth, best to prune after flowering. Similar to old-fashioned European *P. coronarius*, but this species is native to North America. William Cullina, plant curator at the Coastal Maine Botanical Gardens, calls it "our most ornamental *Philadelphus* species." Z3. (1-3')

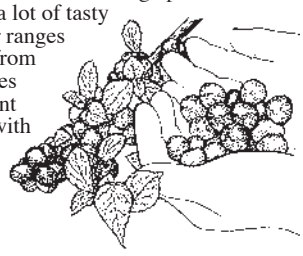
***514A** Blizzard Mockorange, $17.00*

***Prunus maritima* Beach Plum** 6' x 5-6' Rounded dense suckering shrub found along ocean beaches, New Brunswick to the Carolinas. In spring beautiful showy white blooms cover the dark branches. Purplish-red (or occasionally orange-yellow in some specimens) 1/2–1" fruit in late summer. Excellent jams, sauces and especially jelly. Although typically found growing naturally in poor sandy soils, the plants thrive in well-drained fertile soils with a pH of 6–6.5. Additional fertilization will increase productivity. We suggest an annual 5-gallon bucket or two of compost per plant. Prune to maintain an open center for good light penetration. Plant about 5' apart. Pollination requirements are uncertain—**we recommend planting at least two for good fruiting**. Salt tolerant! Native to eastern North America. Z3. (1-3')



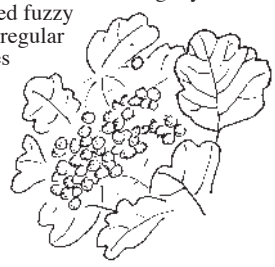
***515A** Beach Plum, $18.75*
***515B** Beach Plum, bundle of 5, $80.00*

***P. tomentosa* Nanking Cherry** 6-10' x same. Broad dense fruiting shrub, becoming open and attractively irregular. One of the earliest flowering fruits every spring. Pink buds open to masses of fragrant white 3/4" flowers. Deeply veined light green foliage with very fine fuzz (tomentum) lining each vein underneath. Excellent hedge plant: an edible landscape crop that produces a lot of tasty fruit! Variable 3/4" fruit in early summer ranges in flavor from mild to tart and in color from scarlet to clear red to pink and sometimes even white. Eat fresh or frozen. Excellent jelly and fruit leather. Covering plants with netting will deter birds from robbing your crop. Prefers full sun in well-drained soil. **Plant two or more for pollination.** Susceptible to brown rot. Native to China and Japan. Z3. (1-3')



***516A** Nanking Cherry, $17.75*

***Rhus aromatica* Fragrant Sumac** 5-6' x 6-8' Glossy blue-green trifoliate leaves emit a pleasing aroma when crushed: maybe lemony or musky but also a tad minty. Phenomenal fall colors when leaves turn orange to brilliant scarlet. Throughout summer, young leaves emerge reddish-pink, older leaves mellow into a deep green, and teenage leaves are lighter green, creating a lovely display. Beautiful small bright yellow flowers in spring draw in butterflies. Small red fuzzy fruit clusters on females attract birds. Low irregular form will sucker from the roots, and branches touching the ground will root themselves to quickly produce a colony; useful in erosion control on banks or hillsides. Dioecious: these are unsexed plants; **multiples needed for fruit**. Easy to transplant, adaptable, prefers acid soil, sun to partial shade. Native to eastern U.S. Z3. (1-3')



***517A** Fragrant Sumac, $18.75*

Special Plants for Challenging Locations

Drought Tolerant:	**Wet Tolerant:**	**Shade:**
Amelanchier	Amelanchier	Black Cohosh
Bearberry	Birch	Dogwood
Carolina Allspice	Black Cohosh	Balsam Fir
Catmint	Highbush Blueberry	Geranium
Chokeberry	Buttonbush	Wild Ginger
Coreopsis	Chokeberry	Hazelnut
Chestnut	American Cranberry	Hops
Elm	Dogwood	Hosta
Erica	Elderberry	Jack-in-the-Pulpit
Grape	Elm	Lady's Mantle
Heather	Ferns	Sugar Maple
Hens & Chicks	Blue Flag Iris	Woodland Phlox
Honeylocust	Marshmallow	White Pine
Huckleberry	Swamp Milkweed	Pulmonaria
Hydrangea	Northern Wild Raisin	White Snowberry
Lavender	Spicebush	Spicebush
Lilac	Steeplebush	Viburnum
Lingonberry	Sweetflag	Wintergreen
Nannyberry	Trollius	Witch Hazel
Beach Plum	Virginia Sweetspire	
Rosa rugosa hybrids	Willows	
American Smokebush	Winterberry	
Ohio Spiderwort	Witch Hazel	
Spruce		
Fragrant Sumac		
Virginia Sweetspire		

Rosa spp.

For millennia, roses have beguiled humans. The first cultivation of these flowers dates back more than 5000 years in China. Fossil records suggest that roses may have been around for more than 30 million years. Regarded as the ultimate icon of love, grace, beauty and elegance, roses continue to be the subject of art and poetry across the world.

Leaves, petals, hips and roots all have medicinal properties. Rose hips (fruits) are rich in vitamin C and make a wonderful "rose apple" jam; rose-petal elixir calms the nerves and lifts the spirit.

Each year, we aim to offer a diverse selection of unusual and antique varieties. Unlike hybrid tea roses, these roses are all vigorous, cold hardy and on their own roots. The antique varieties grow slowly compared to newer hybrids and tend to be more difficult to propagate. You may notice when you receive your order that some of these roses have small root systems and little top growth. Don't be alarmed by this—it's just the nature of these old varieties. We can attest that they perform just as well as the others. If roots are tangled, cut them back to 6" or so and spread them out in the planting hole.

Native to temperate regions throughout the world. (9-18")

***R. gallica* 'Officinalis' Apothecary's Rose** 4x4' Ancient semi-double deeply fragrant intense deep pink rose is just as medicinal as it is charming. Quite possibly the first rose cultivated in European gardens. Four rows of soft silky petals surround a crown of golden stamens. The strong fragrance retained in the dried petals led to an entire perfume industry in France, producing everything from essential oils to confections with "Rose of Provins." Many modern roses have been derived from this classic rose. Z4.

***524A** Apothecary's Rose, $22.75*

***R. g.* 'Tuscany Superb'** 4-5' x 4' A sport, c. 1840, of the ancient *gallica* Tuscany (Old Velvet Rose), which dates back to the 14th c. Moderately fragrant semi-double dark red to crimson-maroon flowers are velvety beyond belief. Red-orange hips. The petals retain fragrance when dried and have been used medicinally, cosmetically and in potpourri for centuries. Easy to grow. Will tolerate poor soil, sun or partial shade. A very tough plant. Z3/4.

***526A** Tuscany Superb Rose, $22.75*

***R. g.* 'Versicolor' Rosa Mundi** 2-4' x 3-4' Circa 1580. A spectacular candy-striped sport of *R. gallica* 'Officinalis'. Large pink-and-white–striped semi-double blooms have strong fragrance—a playful rose for the adventurous gardener! Matte medium-green foliage. Shrouded in some mystery as to whether this is an original sport of Apothecary's Rose or a later revision. The experts can duke that out. The rest of us will just stand there gazing. Will sucker. Tolerates shade. Lore has it this was named after The Fair Rosamund Clifford, nicknamed Rose of the World. Z4.

***527A** Rosa Mundi Rose, $22.75*

***R.* 'Lavender Bouquet'** Up to 7'. Apple Blossom (*R. multiflora* hybrid) x seedling. MacPhail, Truro, Nova Scotia, 2019. This one is new to us, but rose specialist Bob Osborne in New Brunswick tells us it is a rambling rose of high vigor, good for climbing, displays medium-full, cupped and flat (globular) lavender blooms of small flowers in large clusters in early summer. Little to no fragrance. Had some tip damage around –30°—not too shabby. About breeding hardy roses, MacPhail told the CBC in a 2017 interview: "The goal is to get them so we can live with them and they're not too ugly—because some roses are terribly ugly." He goes on to say, "My wife hates roses! If I get anything for my wife for any occasion, I have to get her carnations." Maybe he'll convince her with this one? Very hardy. Z4.

***528A** Lavender Bouquet Rose, $22.75*

***R.* 'Oscar Peterson'** 2-4' x 2-3' Yellow Submarine × RSM P02. Ag Canada/CNLA intro, 2016. Soft yellow semi-double blooms open very white revealing a decked-out center of large stunning glowing golden stamens. A real bee magnet. Buds are creamy yellow at the base topped with a splash of red-pink. Repeat bloomer. Tidy leaves are outlined in red along the serrations. Compact upright dense shrub form, one of the best of the hardy whites that won't sucker. Deep green foliage seems to be trouble-free. Named after the Canadian jazz pianist and composer. This little beauty will get your heart swinging. Wowzah. Z3.

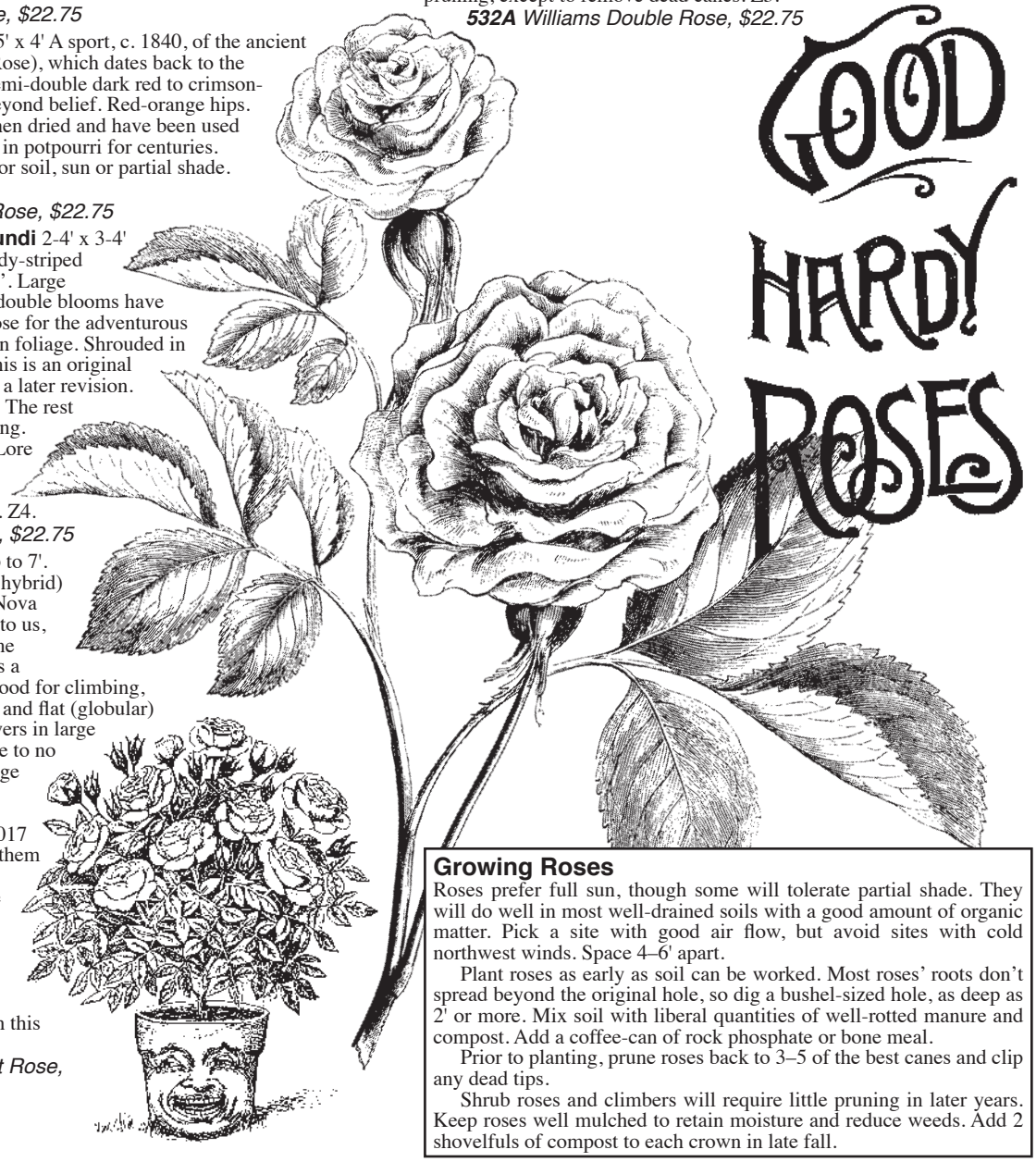
***529A** Oscar Peterson Rose, $22.75*

***R.* Ramblin' Red®** 6-10' *R.* RADramblin (Razzle Dazzle x Henry Kelsey) Radler, Bailey Nurseries, 2002. Seedling of Henry Kelsey. Bright red climber. Medium true-red semi-double blossoms appear in late spring and keep on blooming though summer. Holds up well in a vase if picked at the early bud stage. What a delightful surprise this rose has turned out to be. We tied it loosely to a fence near the driveway where it's wrapped itself up and about. Visitors and neighbors ask what it is. They all want one! Z4/5.

***531A** Ramblin' Red Rose, $22.75*

***R.* 'Williams Double Yellow'** 4x4' *R. spinosissima* x *R. foetida*. Bred by John Williams, UK, c. 1820. Also known as **Double Yellow Scots Rose**. Butter-yellow 2" informal semi-double bloom of mild fragrance with a green pointed carpel in the center in the place of stamens. Dark green foliage is smaller than other roses. Hardy yellows are rare and tend to be coarser in habit. We let ours tangle together like a briar in a less formal garden. Will form a thicket you can let go and forget about pruning, except to remove dead canes. Z3.

***532A** Williams Double Rose, $22.75*



Growing Roses

Roses prefer full sun, though some will tolerate partial shade. They will do well in most well-drained soils with a good amount of organic matter. Pick a site with good air flow, but avoid sites with cold northwest winds. Space 4–6' apart.

Plant roses as early as soil can be worked. Most roses' roots don't spread beyond the original hole, so dig a bushel-sized hole, as deep as 2' or more. Mix soil with liberal quantities of well-rotted manure and compost. Add a coffee-can of rock phosphate or bone meal.

Prior to planting, prune roses back to 3–5 of the best canes and clip any dead tips.

Shrub roses and climbers will require little pruning in later years. Keep roses well mulched to retain moisture and reduce weeds. Add 2 shovelfuls of compost to each crown in late fall.

***Rosa rugosa* hybrids** We are not offering *rugosa* seedlings this year (see sidebar). *Rugosa* hybrids offer many of the same rugged *rugosa* qualities we love, minus the extreme colonizing tendency.

***R.* 'Blanc Double de Coubert'** 5x4' *R. rugosa* x Sombreuil. Cochet-Cochet, France, 1892. The best of the double whites with recurrent blooms of lush fragrance. Large 2½–3" blossoms are creamy and substantial as if they were carved out of snow-white ivory; not fluffy like some other doubles. Begins blooming in June with some recurrence thereafter. Infrequent hips. Attractive dark shiny green foliage. Good fall color. Open vigorous shrub. Z3.

***533A** Blanc Double de Coubert Rose, $22.75*

***R.* 'Moje Hammarberg'** 3-4' x 4-5' *R. rugosa* hybrid of unknown parentage. Hammarberg, Sweden, 1931. Pronounced *moyeh*. Extend your petal harvest with this early-blooming hybrid *rugosa*. Large double 3" mauve flowers repeat throughout summer. Strongly scented petals loosely surround bright stamens and tend to nod on the branch. Distinctly pointed center of the opening flower. Large hips for making jams and preserves. Glossy dark green disease-resistant foliage. Low growing. Rare in the trade. Z3.

***534A** Moje Hammarberg Rose, $22.75*

Old-fashioned Roses

Roses grown in Europe before 1800 are referred to as "Old World" roses, including the cultivars of *Rosa gallica*. Their pink colors ranged from the deepest dark purple of 'Cardinal de Richelieu' to a faint pink blush like that of 'Chloris'. There were no reds among these antique roses and, though rich in fragrance, they bloomed only once per season. In the late 1700s red roses with repeat blooming tendencies were introduced from China, shifting the focus of rose breeding toward those traits. Demand for the aromatic and medicinal qualities of the Old World roses declined, supplanted by flowers that lasted long through the season. The hybrids created since the 1820s are called "modern" roses and are much more commonly seen in gardens today.

R. gallica is considered the oldest rose, steeped in history, legend and myth, and still grows wild in some places in the Caucasus, the mountainous region between the Black and Caspian seas, where it originated. Its exact origin is unknown but it can be traced back fourteen centuries when it was considered a symbol of love by the Persians. The aromatic petals hold their scent better than any other rose and have long been considered medicinal. This species contains hundreds of different cultivars, some very similar and others unique. Most have compact shrub habits and are generally very hardy. Most modern-day roses are presumed to be descendants of the *gallicas*.

***R.* 'Pierette Pavement'** Up to 7'. *R. rugosa* hybrid. Jürgen Walter Uhl Germany, 1987. Also called **Yankee Lady**. A dense shrub with large true medium-pink semi-double blossoms. Good *rugosa* hips and thumbs up on fragrance. Great for controlling bank erosion or as a hedge. Will tolerate part shade and salt. "Pavement" isn't a very flattering name for a rose series, but word is they are all super tough (like pavement?). This one is very low maintenance. Z3.

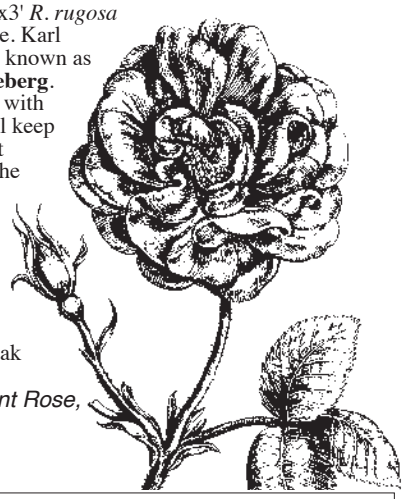
***535A** Pierette Pavement Rose, $22.75*

***R.* 'Polareis'** 4-7' x 6-7' *R. rugosa plena* Regal x Abelzieds. Rieksta, Latvia, 1963. Also known as **Kamtschatka** and **Polar Ice**. An older *rugosa* hybrid purportedly from the Leningrad Botanical Garden in the 1960s. The late Suzanne Verrier grew this rose on her North Creek Farm in Maine: "Clusters of creamy-white double blossoms blushed pink cascade cover [sic] this impressive shrub. It's a showstopper and very much admired in our gardens." Dense mounding form with hardy thorns. Very fragrant repeat bloomer makes an excellent hedge. Z3.

***536A** Polareis Rose, $22.75*

***R.* 'Pristine Pavement'** 5x3' *R. rugosa* hybrid of unknown parentage. Karl Baum, Germany, 1990. Also known as **White Perfection** or **Schneeberg**. Another hardy white *rugosa* with extra-large 4" blossoms. Will keep blooming till frost. Excellent for hedges and banks. Like the other Pavement roses, it's fragrant, repeat blooming and semi-double. Gold stamens adorn flower centers. At its best between bud and full opening when its immaculate beauty and well-composed form is at peak perfection. Z3.

***537A** Pristine Pavement Rose, $22.75*



Where did the *Rosa rugosa* seedlings go?

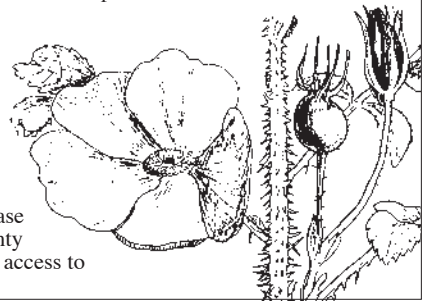
Rosa rugosa is in the hot seat in Maine. After several years on the Species Watch List, it recently landed in a worse category: Invasive Terrestrial Plant Species of Special Concern. Starting in 2024, all *R. rugosa* sold in Maine must be labeled with this message: "Invasive Species—Harmful to the Environment." We will also be required to offer alternative non-invasive species and provide instructions for the care of *rugosa* to prevent its spread in the state.

Over the years some of you cursed us for offering *rugosa*, while others asked for more. We have offered it despite the controversy because we felt that—especially in inland garden settings—the benefits of this rugged beautiful rose outweighed its negative attributes. Herbalists of Western, Chinese and Ayurvedic traditions consider *rugosa* to be rejuvenating and cooling. The large edible red hips, full of vitamin C, are good eating fresh or for jelly and "rose-apple" jam. Tinctured petals soothe grief.

So what's the problem? *Rugosa* fruits, seeds and rhizomes can float with the tides and wash up on distant shore lands, where they can form massive colonies and create monocultures along the coast. Some scientists and naturalists have noted this chokes out native plants already doing a good job controlling erosion. Others argue that as our coasts experience more destructive tides and increasingly rapid erosion, *rugosa* might be one of the best plants for keeping our coastline intact.

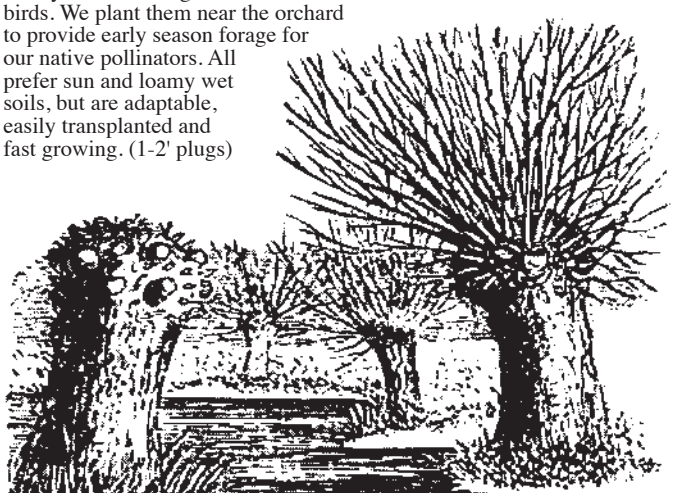
Until we know more, we're taking a break from offering the straight species. We may bring it back in future catalogs, so stayed tuned. In the meantime, we secured a great supply of roses this year including hybrid *rugosas* that share many of the same great traits with the seedling, minus the extreme colonizing traits. The downside is the loss of genetic diversity only seedlings can offer. Going forward, we're hoping to offer more native seedling roses of other species, like *R. caroliniana* and *R. virginiana*.

The good news for those of you who want the rose hips is that there is a lot of *rugosa* on the coast of Maine and plenty of petals and fruit to harvest. If you are a private landowner with a good hedge of *rugosa*, please consider sharing your bounty with those who don't have access to these areas.

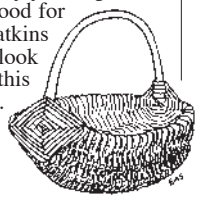


Willow *Salix* spp.

The genus *Salix* comprises hundreds of different species of plants most commonly called willows but sometimes called **Osier** or **Sallow**. Willows grow all over the world. Some, like the weeping willow (see page 42), are towering specimens. Others are short scrubby bushes; willows growing in the arctic can be 100 years old but only 2' tall! Uses include ornamental landscaping, shade, basket-making, erosion control, timber, fuel and medicine. All parts, especially the bark, contain salicin, used for relief of pain and fever for hundreds, or even thousands, of years. Aspirin is a synthetic analog of salicin. Willows feed local wildlife, insects and birds. We plant them near the orchard to provide early season forage for our native pollinators. All prefer sun and loamy wet soils, but are adaptable, easily transplanted and fast growing. (1-2' plugs)



Basket Willow 20' tall. Species unknown. Original cuttings came from the Seed Swap and Scion Exchange at MOFGA many years ago. It grows tall and straight, with minimal branching, so is good for making baskets. The bark is green to light brown. The catkins are small and not very ornamental though the cut stems look quite elegant in a vase at peak catkin stage. Even though this one is a bit of a mystery, we couldn't resist propagating it. For all those basketmakers out there, this one's for you. Keep it whacked back so it can re-sprout within reach. Z4, at least. **ME Grown.**



***545A** Basket Willow, $16.75*

***S. alba* 'Britzensis' Coral Bark Willow** 15-30' x 12-15' Späth intro, Britz, Germany, 1878. Also called *S. a.* var. *vitellina* Britzensis. Fast-growing shrubby tree with highly ornamental red bark that starts yellow and graduates to coral. Especially splendid in the snowy winter landscape. Recommended for filling the winter flower vase: Set the dormant branches in a vase *without* water and enjoy. The deep red stems will dry to a rusty red. Color is most striking on new growth, so give it an annual spring pruning or even cut it right to the ground. Every spring you'll get new 5–10' red stems. Typically narrow Salix leaves. Originally raised from seed by the famous nurseryman Ludwig Späth, whose lilac is an all-time favorite. Likes water, adaptable to a wide range of soils and conditions. Full sun to light shade. Z2. **ME Grown.**

***546A** Coral Bark Willow, $16.75*

***S. gracilistyla* 'Melanostachys' Black Pussy Willow** 6-10' x same. Very attractive unique fast-growing plant for wetland areas. Deep purple-black male catkins in early spring; the cut branches are marvelous in a vase. The rather short foliage emerges orange and then turns a deep green. Stems turn a rich purple-black in winter. Attractive dark colors all year. Winner of Royal Horticulture Society's Award of Garden Merit. Prune in summer or fall. Adaptable. Prefers moist soil but will tolerate dry as well. Native to eastern Asia. Z4. **ME Grown.**

***547A** Black Pussy Willow, $16.75*

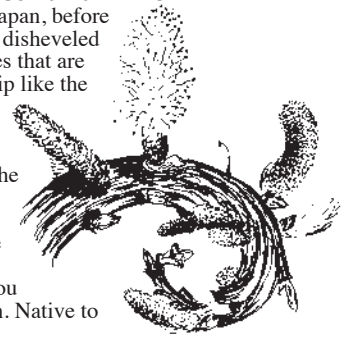
***S. g.* 'Mt. Aso' Japanese Pink Pussy Willow** 6x6' Possibly a hybrid of *S. gracilistyla* x *S. caprea*. Male specimen selected in Japan by Dr. Tsuneshige Rokujo. Pink buds open to cheery rosy pink catkins for a stunning early spring display. When the plants in our stark warehouse began to reveal their darling daubs of pink, the crew gathered round and cooed as if we'd discovered baby bunnies. Excellent in cutflower arrangements. Foliage opens pink and turns rich blue-green with prominent veins and soft fuzzy undersides. Catkins form on second-year wood. Coppice just after flowering to keep form pulled in and less rangy. Easy to maintain. Prefers full sun and sandy soils but will do fine in average or moist conditions. Z4. **ME Grown.**

***548A** Mt. Aso Japanese Pink Pussy Willow, $16.75*

***S. purpurea* 'Nana' Blue Leaf Arctic Willow** 3-5' x 3-6' Selection of Purple Osier. Small narrow blue foliage (actually greenish above and blue beneath) and delicate thin long red or green stems on a medium-sized spreading shrub. The graceful thin stems sucker, layer and form a thick and highly attractive ornamental mass. Long cultivated and coppiced for a fine-textured basket-making material. Excellent bank or hedge plant, especially in wet areas but also quite suitable for a highly visible location. We've seen it looking great in a perennial bed. If it gets overgrown, cut it to the ground every couple of years and it'll come right back. Native Europe to North Africa to Japan. Z3. **ME Grown.**

***549A** Blue Leaf Arctic Willow, $16.75*

***S. sachalinensis* 'Sekka' Japanese Fantail Willow** 10-15' x same or wider. Male clone, Japan, before 1700. Fantastic wide dense spreading disheveled shrub with highly ornamental branches that are flat and often curled near the branch tip like the neck of a violin. We cut the reddish-golden surreal stems in winter for dry arrangements: they look great in the vase for years. Yellow catkins in the spring make good pollinator forage. Glossy green summer foliage turns yellow in fall. Makes an impenetrable hedge or low windbreak. Trim it back any time of year. Highly adaptable; you can grow it anywhere. Prefers full sun. Native to Japan. Z4. **ME Grown.**

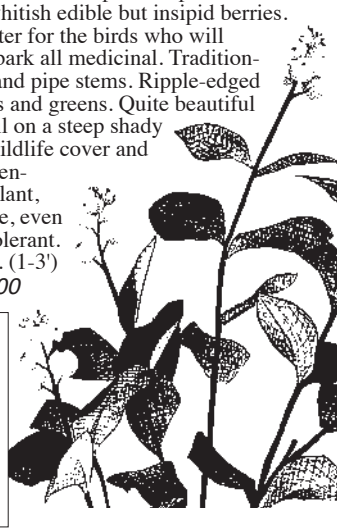


***550A** Japanese Fantail Willow, $16.75*

***Spiraea tomentosa* Steeplebush** 2-4' x same. Seeing this bonny little plant makes a heart leap with joy. Seriously, it's adorable, and we and the pollinators are obsessed with it. A must for every butterfly garden. Rosy pink steeples emerge as terminal spikes about 4–6" tall, appearing mid-late summer and lasting at least a month. Foliage is medium green, serrated with woolly undersides. Easy to grow. Lovely en masse. Likes average acid moist soils but not picky. Full sun or part shade. We've seen it emerge in newly cut woodlots on dry soil and thriving on pond edges, as single canes or in clumps with multiple blooms. No serious pest or disease issues. Native Nova Scotia to Georgia and inland. Z3. **ME Grown.** (1-3')

***551A** Steeplebush, $19.25*

***Symphoricarpos albus* White Snowberry** 5-6' x same. Also called **Common Snowberry** or **Waxberry**. Broad rounded arching spreading wildlife and medicinal shrub. Inconspicuous pinkish flowers in late spring, followed by plump whitish edible but insipid berries. More palatable cooked, but still better for the birds who will gobble them up. Leaves, roots and bark all medicinal. Traditionally used for arrow shafts, brooms and pipe stems. Ripple-edged foliage of muted multi-shaded blues and greens. Quite beautiful all season. Excellent for holding soil on a steep shady moist bank while providing good wildlife cover and forage. Will spread with age and eventually form colonies. Easy to transplant, adaptable to most soils, sun or shade, even clay and city conditions. Drought tolerant. **Self-fertile.** Native eastern U.S. Z3. (1-3')

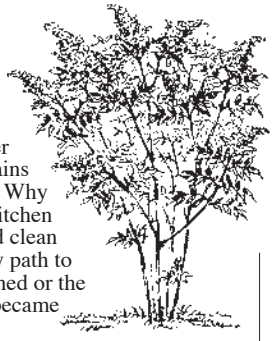


***552A** White Snowberry, $19.00*

"I think it is a major accomplishment for a co-op to flourish and grow like Fedco has done! I would like to send you a blank membership form with a $100 bill clipped to it so you can sign up a deserving person that may not otherwise be able to afford to join the co-op."

– Steve from Bellingham, WA

Lilac *Syringa* spp.



Lilacs have been a fixture in the New England landscape for generations. More often than not, when we find old apple trees, the ancient lilacs are not far away. The large rambling suckering shrubs continue to flourish each spring long after the buildings have disappeared and all that remains of homesteads are crumbling stone foundations. Why were the lilacs always planted just outside the kitchen door? On cold winter mornings, someone would clean out the wood stove and sprinkle ashes on the icy path to the backhouse. Or maybe the path to the woodshed or the clothesline. The earth outside the kitchen door became more alkaline, which lilacs love.

Excellent alone or in hedges. Deep green glossy heart-shaped foliage looks good all season. Intensely fragrant blooms in May. Flowers range from singles to doubles, pure white to the deepest purples, pinks, reds and lavenders. Ornamental, edible (frittered flowers), medicinal, and a great Mother's Day gift. (1-3')

***S.* x *hyacinthiflora* 'Mount Baker'** 8x10' *S. vulgaris* x *S. oblata dilatata*. Dr. Frank L. Skinner intro, Dropmore, Manitoba, Canada, 1961. Prolific single heavily fragrant lovely showy white blooms. One of Roger Luce's favorites. Roger was one of Maine's great 20th-c. plant people. His lilac collection near Bangor was unsurpassed for its time. John had the opportunity to observe this lilac in bloom during a visit with Roger many years ago. Of the lilac, Roger simply commented, "Lovely white." Indeed it is. Large shrub blooms about 2 weeks before most other lilacs. Extremely hardy. Z2/3.

***553A** Mount Baker Lilac, $21.00*

***S.* x *hyacinthiflora* 'Pocahontas'** 10-12' x same. Frank L. Skinner intro, Dropmore, Manitoba, Canada, 1935. Skinner's other most famous lilac. Deep maroon-purple buds and profuse single rich deep violet flowers. Large vigorous upright form. Blooms before the common lilacs. Father John Fiala calls it "very fine to excellent" and "very showy." Extremely hardy. Z3. **Indigenous Royalties.**

***554A** Pocahontas Lilac, $21.00*

***S. v.* Common Purple** 12-15' x same. A mass of medium-light purple blooms every year. A magnificent New England sight for nearly 400 years. When a friend looked out John's living room window and thought he had some fancy new cultivar, John chuckled, "Nope, just the good old common purple." Never disappoints. Suckers freely, the best lilac for a spreading hedge. Z3.

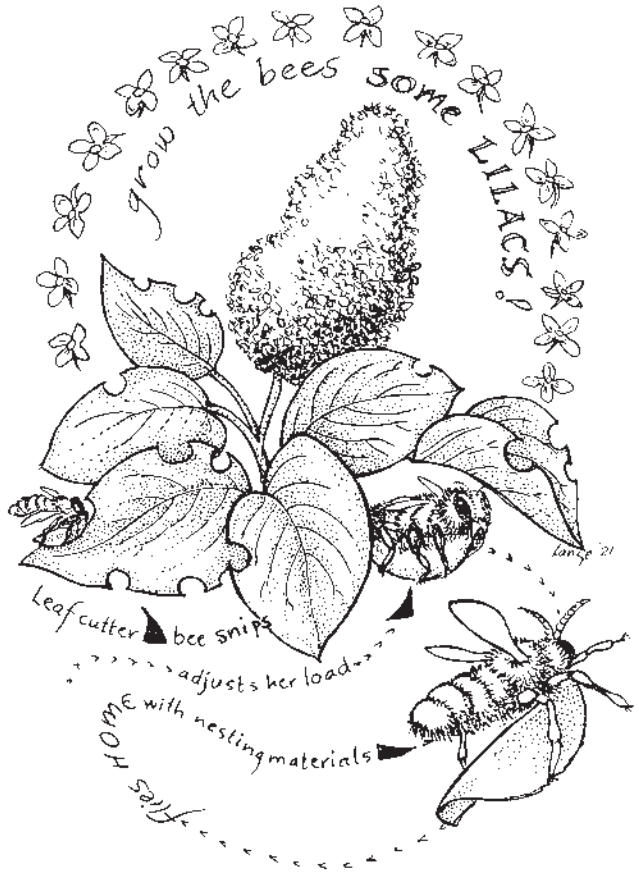
***555A** Common Purple Lilac, $21.00*

***S. v.* 'Monge'** 10-12' x 8-12' Victor Lemoine et Fils, Nancy, France, 1913. Large broad outstanding showy single dark silvery red-purple blooms, similar to Ludwig Späth. Medium-sized slightly flattish panicles, two or three per cluster. There's a lovely specimen growing behind Garden Variety in Thorndike, ME. Considered one of Lemoine's best introductions. Open upright rounded form. Z3.

***556A** Monge Lilac, $21.00*

***S.* x *tribrida* 'Minuet'** 6-8 x 4-6' (*S.* x *josiflexa* Red Wine) x (*S.* x *prestoniae* Donald Wyman) William Cumming intro, Morden Arboretum, Manitoba, Canada, 1972. Low-growing compact dwarf lilac with single rosy-pink blooms. Unlike the typical heart-shaped lilac foliage, Minuet's leaves are oval and dark green. Highly disease and pest resistant. This has Preston heritage, so it blooms a month after the common lilacs have come and gone. Z3.

***557A** Minuet Lilac, $21.00*

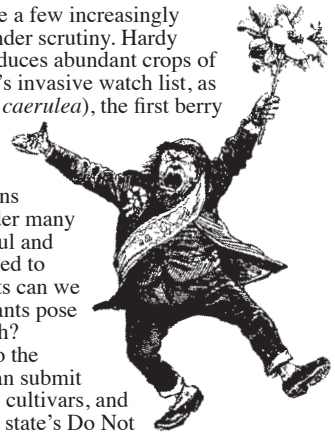


Invasive Questions

In our work at Fedco, we seek seeds of the cold-hardiest native plants so we can populate our landscape with more seedlings adapted to our ecoregion. We recognize the ancient relationships native plants have with the animals that evolved with them. Alongside this work, we also offer non-native plants based on the value they bring us. The apples, pears and stone fruits we rely on in our orchards are not native to North America. Many of the classic ornamentals that grace our dooryards are also from afar: lilacs, forsythia and roses, to name a few. We love these plants.

Yet some introduced species can become problematic if they have a competitive advantage over native plants. Over time, invasive plant species push out native ones, leading to extinctions, the spread of pathogens, and disruption of local ecosystems. Where is the line between the non-native species we welcome, and the ones we deem threatening to our landscape?

States' restrictions on certain plants deemed invasive can be controversial. In Maine there are a few increasingly popular and useful woody crops under scrutiny. Hardy kiwi (*Actinidia arguta*), which produces abundant crops of delicious berries, is now on Maine's invasive watch list, as is honeyberry or haskap (*Lonicera caerulea*), the first berry to ripen in early summer. We have offered these plants in the past, as both provide a bounty of fruit and fill a particular niche for gardens and farms in our area. It's no wonder many growers who depend on these useful and beneficial crops are strongly opposed to new invasive statuses. Which plants can we responsibly steward, and which plants pose too great a risk to mess around with?



If you want to add your voice to the conversation here in Maine, you can submit requests for exemptions of specific cultivars, and nominations of plants to add to the state's Do Not Sell list, at maine.gov/dacf/php/horticulture/invasiveplants.shtml

Growing Lilacs

Lilacs are adaptable, easy to grow, nearly indestructible and practically maintenance-free. They prefer well-drained moderately rich soil. Sandy gravelly loam is perfect. Full sun is best, but they'll tolerate part shade.

Add shovelful of wood ash or lime to hole at planting time, then add another shovelful of either every 3 years. A yearly mulch of manure or compost will encourage spectacular annual blooming. Pink, lavender and blue lilacs color up best in soil with a neutral pH.

How to prune lilacs

If you choose to prune your lilacs, do it right after flowering. Late-season pruning removes next year's buds. As the plant matures, prune off a quarter of the new suckers and the oldest growth (a few main stems each year). Some growers prefer to keep the plant low and bushy. Do so by "topping" it off every year: prune any upright branch back to a junction with a lower branch. Others prefer a tall tree-like form. Our friends Philippe and Danielle have let theirs soar to 8' or more, removing the lower branches and creating a magical walkway in the process. Lilacs are more than willing to cater to your own personal vision. Have fun! No need to cut off spent flowers except for appearance.

Why isn't my lilac blooming?

Too shady: lilacs need sun to form blossoms. Over-pruned: pruned too late, removed buds. Also, some plants respond to excessive pruning by putting their energy into vegetative growth instead of flowering. Too wet: lilacs like well-drained soil. Over-fertilized: lilacs will bloom well without assistance. Too much fertility can lead to more vegetative growth and inhibit bud formation.

Viburnum spp.

The Viburnum genus encompasses more than 150 different species, which can range from dense shrubs lush with green foliage to more open and rangy small trees. Viburnums are prized for their multi-season interest, with blossom, berry and foliage varying by species. Flowers attract many butterflies and other early-season pollinators in spring. Ripening berries, some edible for humans, put on a show of color throughout the summer and are popular with birds and other wildlife. The Viburnums we offer are important wildlife plants and beautiful adaptable additions to the landscape. Plant multiples of a species for best results. (1-3')

V. cassinoides **Northern Wild Raisin** 5-6' x same. Also called **Appalachian Tea**, **Raisinberry** or **Witherod** (pronounced *withe- rod*, not *wither-rod*.) Rounded arching dense suckering shrub. Creamy white flowers with yellow stamens on 2–5" flat-topped cymes bloom from spring to early summer. Highly desired for its edible fruit, which turns from green to pink to red to blue before finally turning black in September. Fruiting clusters feature several colors at the same time. Best eaten when nearly dried out on the branch, if you can get to it before the birds! Foliage, once used in tea, emerges bronze or purple tinted, turning dark green when mature and then orange-red, dark crimson and purple in fall. Very rugged: adapts to dry or wet sites. Native to eastern North America. Z3.

560A *Northern Wild Raisin, $23.00*

V. dentatum **Northern Arrowwood** 8-15' x 4-10' Vase-shaped native shrub with long straight rigid shoots that gently arch at the ends, traditionally used for making arrow shafts. Shiny deeply toothed crinkly leaves. White creamy flat flower clusters in spring turn to blue to black 1/4" fruit sought after by the birds. Found growing in lowland thickets as well as upland forests, often on the edge of the woods or near the side of the road. Will sucker and form colonies. Makes a great screen or hedge plant. Native New Brunswick to Minnesota and south to Georgia. Z2/3. **ME Grown.**

561A *Arrowwood, $18.50*

V. lentago **Nannyberry** 15-20' x 10-12' Also called **Sheepberry** or **Sweet Viburnum**. Large open vase-shaped suckering shrub with edible oval berries that turn from green to yellow to red to blue-black raisins that persist in winter and are popular with the birds. Large flat-topped clusters of fragrant creamy white flowers are a common sight in spring in the Maine landscape and are reminiscent of elderberry blossoms. Shiny foliage, purplish red in fall. Medicinal bark and leaves. Recommended for naturalizing, bird and wildlife habitat, screens and borders. Native to eastern U.S. and Canada. Z2.

562A *Nannyberry, $18.75*

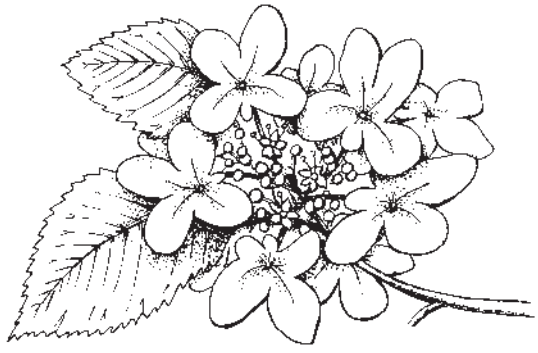
Growing Viburnums

Viburnums are generally easy to grow and adaptable. If grown in optimal conditions—moist rich well-drained soil and full sun to part shade—they will take on a fuller shape. That said, most Viburnums will also do well in the partial shade of wild borders and hedges. Although Viburnums are monoecious (both male and female flowers on the same plant), **we recommend planting multiples of the same species for best fruit set.**

Viburnum leaf beetle (*Pyrrhalta viburni*) has become a problem in some areas. The larvae overwinter on twigs and can defoliate shrubs in spring and early summer. They seem to prefer Arrowwood, but we have seen them do a number on Wild Raisin and Nannyberry. Prune out and burn any egg-infested twigs in early spring before your shrubs are leafed out. Spraying with Spinosad in late April or early May when the larvae first emerge can also help. (Monterey Garden Spray is a Spinosad available from **Fedco's Organic Growers Supply**.) Timing is key since spraying the eggs or adult beetles is less effective.

V. opulus **var. *americanum* Highbush Cranberry Seedling** 8-12' x same. Formerly known as *V. trilobum*. Also known as **Crampbark**. Medicinal multi-stemmed native shrub. Clusters of lovely 4" flat white flowers in May attract beneficial insects. Pendulous bunches of red berries ripen mid-October, popular with dozens of bird species. Fruit is extremely rich in antioxidants and vitamins A and C. Berries can be used for juice, jam, fruit leather and syrups—when boiling them down, don't let the somewhat unpleasant odor deter you. Bark is one of the most effective anti-spasmodic medicinals. Good for screens and hedges. Not to be confused with low-growing bog cranberry familiar in sauces (next page). Native to northeast U.S. and Canada. **Self-pollinating.** Seed sourced from pure stands of *americanum*. Z2. **ME Grown.**

563A *Highbush Cranberry Seedling, $19.00*



V. plicatum **var. *tomentosum* 'Shasta' Doublefile Viburnum** 6-10' x 9-12'. US Nat'l Arboretum intro, Don Egolf, 1979. Rounded shrub with distinctly horizontal stepped branching habit, frosted with spectacular parallel rows of 4–6" pure white inflorescences that float above the foliage in spring. Lacecap flowers are absolutely magnificent in bloom though not fragrant. Author Michael Dirr says, "This excellent plant is now embedded in the psyche of American gardens." For good reason. We saw outstanding specimens in the Brooklyn Botanic Gardens one spring. Their beauty drew us across the lawns like moths to a pure white flame. Serrated deeply veined dark green foliage turns red-purple in fall. Impressive large red fruit clusters turn black toward summer's end and are relished by birds. Species native to Asia. Z4/5.

564A *Shasta Doublefile, $17.00*

V. prunifolium **Black Haw** 12-15' x 8-12'. Creamy white 2–4" cymes bloom in early spring while leaves are still opening, attracting dozens of different pollinators. Lustrous green leaves, narrow-to-oval with pointed tips, turn to bronze-red in fall. Dark bluish-black 1/2" fruits with a waxy bloom form hanging clusters through fall, in a similar way to highbush cranberry. Long used as a food source, eaten raw or put away in preserves. Rounded arching shrub stiffly branched, reminiscent of a wild hawthorn or crabapple. Suckering nature allows it to form a dense colony or hedge, but it can also be pruned as a nice specimen that can reach 20–30' in height. Appears to be disease and pest free. Native to eastern U.S. Z3.

565A *Black Haw, $19.00*

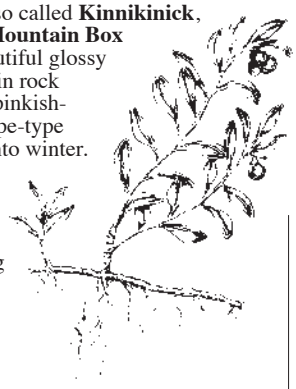
Weigela florida **'Red Prince' Weigela** 5-6' x same. Jack Weigle intro, Iowa State U, 1984. Spreading dense rounded shrub with coarse branches that eventually arch to the ground. Perfect funnel-shaped 1–1 1/4" red flowers attract all the hummingbirds in the area and do not fade. Blooms in late spring and early summer, with a tendency to rebloom in late summer. Extremely adaptable, but prefers well-drained soil and thrives in full sun. Pollution tolerant; no serious disease or insect problems. Species introduced to U.S. in 1860 from Japan. Z4. (1-3')

566A *Red Prince Weigela, $19.00*

Groundcovers

You'll find more groundcovers, like Canadian wild ginger, thyme, geranium and arnica, in the herbaceous perennials, beginning on page 56.

***Arctostaphylos uva-ursi* Bearberry** Also called **Kinnikinick**, **Hog Cranberry**, **Mealberry**, **Sandberry**, **Mountain Box** or **Bear's Grape**. Delicate low-growing beautiful glossy evergreen spreading groundcover. Beautiful in rock gardens. One plant can sprawl to 15'. Small pinkish-white flowers in spring. Small bright red drupe-type berries color up in late summer and persist into winter. Too insipid for fresh eating, but good fried with fish. Leaves are diuretic, astringent and antibacterial. Prefers poor sandy infertile acid soils, tolerates salt. Can be sensitive to root disturbance, thus finicky in transplanting and may be slow to establish. Set plants 1–2' apart. No need ever to prune or fertilize. Sun or partial shade. Native to North America and Eurasia. Self-pollinating. Z2. **ME Grown.** (1-gallon fabric pots)



577A *Bearberry, $22.00*

***Calluna vulgaris* Heather** Magical, mythical and medicinal evergreen groundcover features a spread of flowers and foliage that change color throughout the season. Revered in the British Isles, important medicinally in teas, honey, liniments and ointments. First fermented a few thousand years ago, used in gruit, ale, and might be the original ingredient for the first whiskey. Branches used in thatching, bedding, basketry, rope and broom-making. Flowers attract bees, butterflies and moths, especially when planted in masses. Recommended for rock gardens and pathways—or for opening the portals to the fairy world.

Shear every April for best bloom. Species native to the dry forests, heaths and bare grounds of Britain and Ireland. More recently naturalized in North America. Z4. (4" pots)

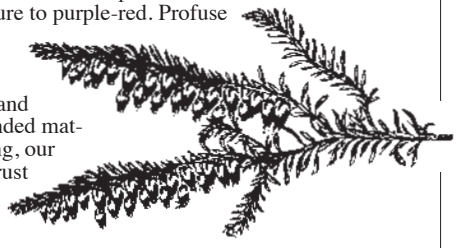
***C. v.* 'Robert Chapman'** 18x30" JW Sparkes intro, Beechwood Nursery, Worcestershire, England, 1962. Lavender flowers from August to September. Gold foliage in summer turns orange in autumn and red through winter and spring. Kaleidoscopic or psychedelic, depending on your personal bent. Upright form.

L578A *Robert Chapman Heather, $12.50*

***C. v.* 'Spring Cream'** 15x18" White flowers from August to September on medium-green foliage. The green persists all year but the golden-yellow tips in winter melt into a creamy hue come spring. Plant next to the your outrageous heather cultivars for a little balance.

L579A *Spring Cream Heather, $12.50*

***Erica carnea* 'December Red' Winter Heath** 6-8" x 18" From a seedling raised at the RHS garden in Wisley, England, 1966. Also called **Snow Heath**. Especially distinct bell-shaped flowers emerge bright pink and mature to purple-red. Profuse blooms very early spring through April with repeat blooms in August. Medium-green foliage is more ferny and wispier than heathers. Mounded mat-like growth habit. This spring, our Ericas bloomed through a crust of snow for an explosion of flowers with bees of all kinds clambering for the early nectar. Ericas have become a favorite of ours. You won't be able to resist the urge to pet it when you walk past. Super low-maintenance. Plant en masse to create a magical carpet. Species native to the Alps and the British Isles. Z4. (4" pots)



L581A *December Red Winter Heath, $12.50*

Growing Heather and Erica

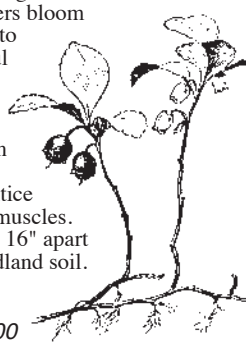
Requires acidic well-drained soil and full sun to partial shade. Plant 18" apart and let them spread. We recommend pine needles or softwood chips as an acidic year-round mulch. Full sun and windy exposures intensify their colors.

Heathers should be sheared every April for best bloom (see below). For Ericas, lightly prune the spent flower tips in spring after blooming.

Shearing heather: Without annual spring shearing, heathers will become woody and bare in just a few years. With pruners or shears, roughly cut the stems below where they flowered the previous season, leaving a few inches of foliage. It should look like a little mound with a haircut. Next thing you know, bright new growth will start emerging.

Shearing not only makes the plants look better but also makes them stronger and more resistant to fungal problems. If you're not up for shearing, heathers might not be for you.

***Gaultheria procumbens* Wintergreen** 6–10" tall with a 1–3' spread. Also called **Eastern Teaberry**. Herbaceous aromatic rhizomatous evergreen groundcover native to the woodlands of eastern North America. Glossy dark green elliptic-to-oblong leaves form on erect stems. Nodding bell-shaped waxy white flowers bloom from the leaf axils in June. Flowers give way to vivid red berries. Leaves will take on beautiful burgundy shades in the fall. Excellent winter food source for free-range chickens, partridge, turkeys, and some two- and four-legged mammals. Fragrant leaves contain methyl salicylate, a potent external anti-inflammatory, and can be used to make a poultice or massage oil to ease arthritic pain and sore muscles. Designated Maine's State Herb in 1999. Plant 16" apart in dappled shade in moist but not boggy woodland soil. **Self-pollinating.** Z3. (3½" pots)



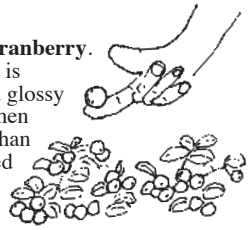
L582A *Wintergreen, $10.50*
L582B *Wintergreen, bundle of 3, $24.00*

***Vaccinium macrocarpon* 'Stevens' American Cranberry** This is the cranberry of holiday sauces, bread and jelly. Dense low lustrous evergreen groundcover, reddish purple in fall and loaded with large red berries. Once established, makes a beautiful and edible "lawn." Handpick or rake like blueberries before hard frost. Use fresh, freeze or store in a cool basement or root cellar for months. Bitter and alkalizing effects make it one of the most common remedies for bladder infections. An excellent source of vitamin C. Annually flooded for frost protection and harvesting convenience in commercial operations, but not necessary in home plots. Adaptable to everything from bogs to dry rocky outcroppings, but prefers acidic cool moist soil that is high in organic matter, similar to soil in which blueberries grow well. **Self-pollinating.** Easy to grow; pest and disease resistant. Native to northeastern U.S. and Canada. Comes in a bushy 6" clump which can be carefully divided or planted as a whole and divided in future years. Z2. **ME Grown.** (6" pots)

583A *Stevens American Cranberry, $23.00*

Lingonberry *V. vitis-idaea*

Also called **Foxberry**, **Cowberry**, **Mountain Cranberry**. Vigorous shallow-rooted spreading groundcover is related to blueberries and cranberries. Bright red glossy nutritious fruits are wicked tart until dead ripe, then have excellent flavor, richer and less astringent than cranberries. Can be eaten fresh but primarily used in sauces, jams, syrups, fruit leathers, juices and wines. Stores up to 2 months in the fridge. Small shiny dark green foliage is quite lovely. Adorable tiny bell-shaped white flowers in spring attract a plethora of pollinators. Extremely popular in Scandinavia and now catching on in the U.S. Ripen in late summer but are best after a frost. Can produce 1–2 lbs per plant for up to 20 years.



If you've got good soil for blueberries, try these. Prefers full sun and poor sandy acid (pH 4.5–5) soils. Plant 12–18" apart. **To ensure good fruit production, plant more than one variety.** Native to circumpolar boreal forests. Incredibly tough and very hardy. Z2. All are **ME Grown.** (1-gallon fabric pots)

***V. v.-i.* 'Erntedank'** Up to 12" tall. Albert Zimmer intro, 1975. Collected in a wild heath near Uchte, Germany. Heavy yields of small- or medium-sized berries.

586A *Erntedank Lingonberry, $22.50*

***V. v.-i.* 'Erntesegen'** 12-15" Also collected by Zimmer from a wild German heath. High-yielding plant produces very large berries.

587A *Erntesegen Lingonberry, $22.50*

***V. v.-i.* 'Linnea'** 5-9" Swedish U of Ag Sciences intro, 1999. Newer cultivar selected from an open-pollinated seedling of Sanna, a wild strain. Strong producer of medium-sized berries.

588A *Linnea Lingonberry, $22.50*

***V. v.-i.* 'Magenta'** 12-15" Swedish U intro. Vigorous cultivar produces large purplish-red berries. Selected for high yields.

589A *Magenta Lingonberry, $22.50*

***V. v.-i.* 'Red Pearl'** 12-18" Elden Stang intro, Holland, 1983. Very adaptable with large berries. Somewhat lower yielding but standard in commercial production as an great pollinator. May bloom twice a season.

590A *Red Pearl Lingonberry, $22.50*

***V. v.-i.* 'Red Sunset'** 8-15" Hartmann's Plant Co intro. Medium-to-large firm flavorful berries. Considered one of the most vigorous cultivars.

591A *Red Sunset Lingonberry, $22.50*

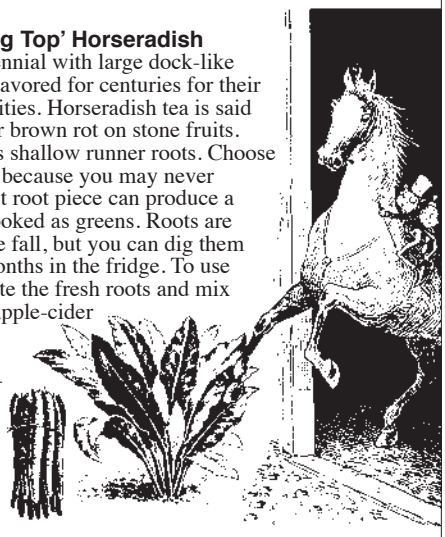
***V. v.-i.* 'Ruby'** 12" Swedish U intro. Medium-sized light red berries. Moderately vigorous with lots of spreading rhizomes.

594A *Ruby Lingonberry, $22.50*

Garden Roots

No garden is complete without the classic triumvirate of Horseradish, Asparagus and Rhubarb!

***Armoracia rusticana* 'Big Top' Horseradish**
Exceptionally vigorous perennial with large dock-like leaves and spicy hot roots, savored for centuries for their culinary and medicinal qualities. Horseradish tea is said to be an effective control for brown rot on stone fruits. Deep taproot with numerous shallow runner roots. Choose carefully where you plant it because you may never get it all out. Even the tiniest root piece can produce a new plant. Leaves can be cooked as greens. Roots are traditionally harvested in the fall, but you can dig them anytime. Roots keep 3–4 months in the fridge. To use as an invigorating tonic, grate the fresh roots and mix with a little lemon juice or apple-cider vinegar and refrigerate. Use soon, then make more. Big Top is an especially disease-resistant variety. Prefers moist rich soil. Plant with the slanted cut down and the flat side up, or just toss them in and watch them grow. Native to northern Europe. Z3. (roots)



L595A *Big Top Horseradish, bundle of 5, $21.00*

***Asparagus officinalis* Asparagus** A spring staple for millennia, may have originated around the Mediterranean Sea, perhaps in Asia Minor. The pharaohs, Greeks and Romans were all aware of its highly nutritious qualities and delectable flavor. The earliest known American horticultural advertisement, from March 1719, is for "English Sparrow-grass Roots." Uncut shoots become a light green feathery hedge, a beautiful backdrop to a flower garden. Honeybees love the dainty dangling flowers, which develop into bright red spherical seed pods on female plants. Occasionally non–spear-forming females will show up in a planting. Leave them be or rogue them out as you wish. (1-yr crowns)

***A. o.* 'Mary Washington'** Heirloom variety developed by JB Norton, USDA, 1919. Large early green stalks tolerate heat well and demonstrate good resistance to rust. For those of you who know your antique asparagus, Mary was selected from Martha. Of the two, Mary is earlier, more vigorous and more uniform. A parent to many modern varieties and planted in American gardens for more than a century. Very winter hardy. Z3/4.

L596A *Mary Washington Asparagus, bundle of 25, $33.50*

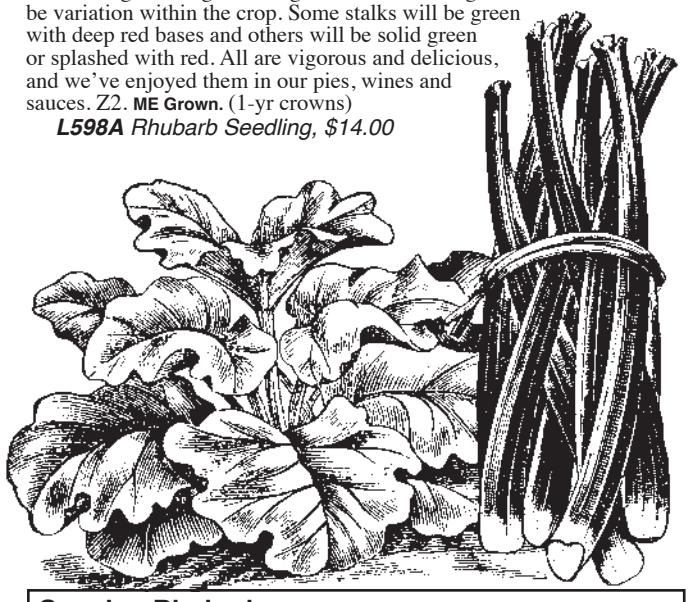
***A. o.* 'Purple Passion'** Developed from the Italian heirloom Violetto di Albenga. Brian Benson intro. Very large deep purple stalk with a creamy white interior. Purple asparagus is actually a type of white asparagus shown the light. Sweeter and less stringy than its green counterparts, so you can use more of the spear. Tender enough to eat raw in salads. Turns green when cooked. Z4.

L597A *Purple Passion Asparagus, bundle of 25, $33.50*

***Rheum rhabarbarum* Rhubarb Seedling** Seedlings of heirloom variety 'Victoria'. Famous for early summer pie and wine, but also good in sauce, bread, juice, soup or cooked with meat and fish. Rhubarb's clumps of juicy acid leaf stalks were once a staple food. The root is a toning purgative herb traditionally used every spring for thousands of years. There are dozens if not hundreds of rhubarb varieties. May have originated in Siberia and been carried across Asia on the Silk Road to Turkey and then into Europe. Victorian cookbooks included rhubarb compotes, fools and charlottes. Eventually brought to North America through the efforts of Ben Franklin and John Bartram. Low-maintenance; will continue through summer if flower stalks are removed and new leaves allowed to grow. Leaves are not edible.

From our trials, we've learned that rhubarb rarely comes true to type when grown from seed, a fact often undisclosed in the nursery trade. We are offering seedling crowns grown on a local organic farm. There will be variation within the crop. Some stalks will be green with deep red bases and others will be solid green or splashed with red. All are vigorous and delicious, and we've enjoyed them in our pies, wines and sauces. Z2. **ME Grown.** (1-yr crowns)

L598A *Rhubarb Seedling, $14.00*

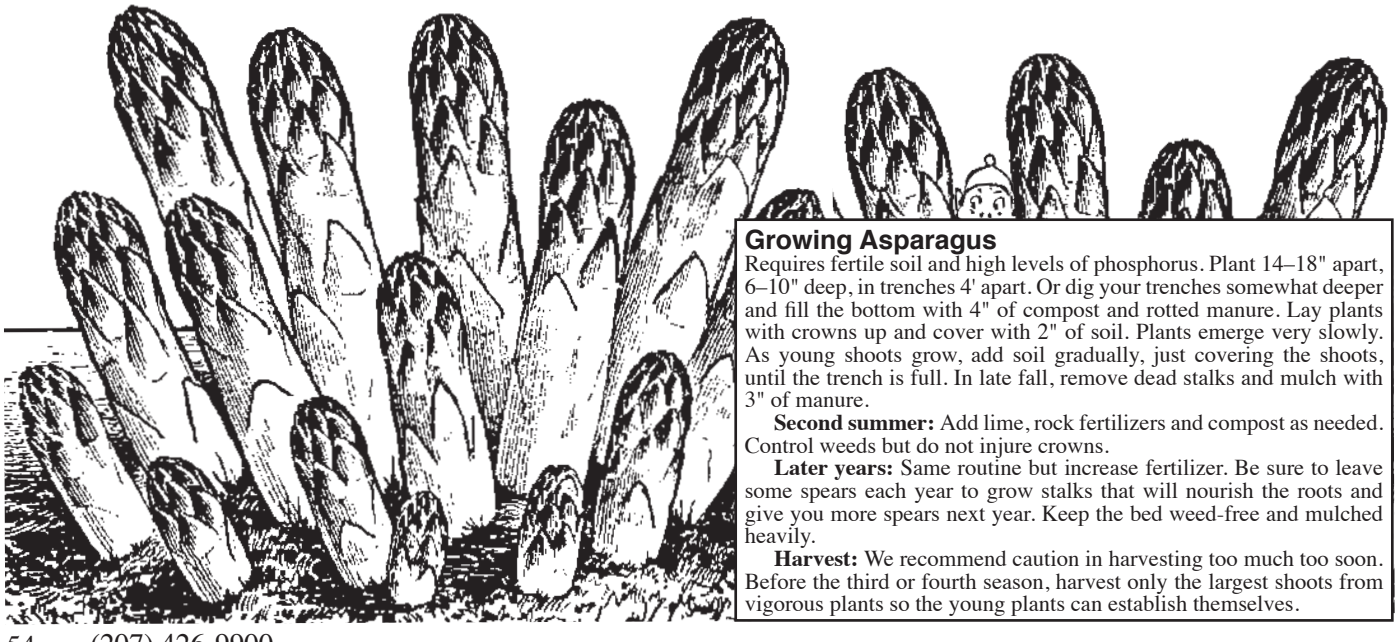


Growing Rhubarb

Plant the top of the root division level with soil surface in well-prepared well-drained rich slightly acid soil. Space crowns 2–4' apart in rows 3–4' apart. Add a bushel of well-rotted manure or compost to each planting hole. When plant is established, fertilize liberally with compost and balanced garden fertilizer every spring, as it's a heavy feeder.

Harvest for 4 weeks 2 years after planting. Thereafter you can harvest for 8–10 weeks each year. Never remove more than 2/3 of the stalks from a plant. Water during dry spells for extended season.

Every 10 years or so, divide plants in early spring. Leave about 1/3 of the clump in place, and cut up remaining crowns into fist-sized pieces to replant.



Growing Asparagus

Requires fertile soil and high levels of phosphorus. Plant 14–18" apart, 6–10" deep, in trenches 4' apart. Or dig your trenches somewhat deeper and fill the bottom with 4" of compost and rotted manure. Lay plants with crowns up and cover with 2" of soil. Plants emerge very slowly. As young shoots grow, add soil gradually, just covering the shoots, until the trench is full. In late fall, remove dead stalks and mulch with 3" of manure.

Second summer: Add lime, rock fertilizers and compost as needed. Control weeds but do not injure crowns.

Later years: Same routine but increase fertilizer. Be sure to leave some spears each year to grow stalks that will nourish the roots and give you more spears next year. Keep the bed weed-free and mulched heavily.

Harvest: We recommend caution in harvesting too much too soon. Before the third or fourth season, harvest only the largest shoots from vigorous plants so the young plants can establish themselves.

Mushrooms

In collaboration with North Spore Mushrooms, we're excited to help you get started on your own fungus garden. These products are all Maine-grown without pesticides, on natural substrates. Most can be refrigerated until you are ready to start growing. We send detailed instructions with your order and you can find more info about each item on our website. We ship mushrooms and tools in April during our regular shipping season.

Getting started

First decide if you want plugs or sawdust spawn for your mushroom-growing adventure. Kits are a good choice for beginners.

Plug Spawn are small wooden dowels colonized by mushroom mycelium. These get hammered into drilled logs of an appropriate tree species.

Sawdust Spawn comes in a 5½ lb loaf. Depending on variety, it can be crumbled into outdoor beds or used for larger-scale log inoculation projects.

Plug Kits contain 100 plugs, wax, a dauber, 5/16" drill bit and instructions. Everything but the log, drill and hammer to get you started.

Countertop Kits Simply slice open the bag, and keep in a humid environment, like beside the sink. Mushrooms should start to produce "pins" within 2 weeks and will grow quickly. Each kit contains a 4½-lb inoculated sawdust block that could produce up to 3 lbs of mushrooms over 2–4 months. Instructions included. The easiest way to get into growing mushrooms. Makes a great gift.

***Agaricus subrufescens* Almond Agaricus** Related to the well-known portabella, crimini and button mushrooms but has its own unique aroma and flavor reminiscent of almonds. The species grows on composted material and thrives in warmer temperatures. A great addition for the home gardener, can be incorporated with compost into vegetable and perennial plantings and does well in season-extension structures.

***605C** Sawdust Spawn, $25.00*

***Grifola frondosa* Hen of the Woods** Rich earthy semi-firm mushroom resembles a fat hen with leafy feathers and can weigh up to 20 lbs. This tasty polypore has a flavor akin to eggplant. Will fruit only in oak logs. For success with sawdust spawn, we recommend heat-treating and incubating log segments in **XL Filter-Patch Bags** (not needed for plug spawn).

***L606A** 100 plugs, $16.50* ***L606B** 500 plugs, $33.00*
***606C** Sawdust Spawn, $25.00*

***Hericium erinaceus* Lion's Mane** Pure white cluster of icicle-like teeth, often found on beech and birch in the wild. When cooked, they have a consistency similar to crab meat. Naturally fruits during cooler months. Due to a slower colonization rate, a higher inoculation rate should be used. Can be grown on many different hardwood species, large- or small-diameter logs.

***L607A** 100 plugs, $16.50* ***L607B** 500 plugs, $33.00*
***607C** Sawdust Spawn, $25.00* ***L607D** Plug Kit, $30.00*
***607E** Countertop Kit, $28.00*

***Laetiporus sulphureus* Chicken of the Woods** Large bright orange fruit bodies have a texture reminiscent of chicken. Great in soups and stir-fries. Fruits all season from late spring into late fall. Prefers large-diameter oak logs. For success with sawdust spawn, we recommend heat-treating and incubating log segments in **XL Filter-Patch Bags** (not needed for plug spawn).

***L608A** 100 plugs, $16.50* ***L608B** 500 plugs, $33.00*
***608C** Sawdust Spawn, $25.00*

***Lentinula edodes* Shiitake** Brown umbrella-shaped spongy caps, very nutritious and medicinal. Good for drying and reconstituting in winter soups. Meaty texture when cooked. Grows best on oak and hard maples. Fruits throughout the growing season and responds well to commercial forced-fruiting production methods. This is the Wide Range Shiitake strain.

***L609A** 100 plugs, $16.50* ***L609B** 500 plugs, $33.00*
***609C** Sawdust Spawn, $25.00* ***L609D** Plug Kit, $30.00*
***609E** Countertop Kit, $28.00*

***Pholiota nameko* Nameko** Gelatinous orange-to-amber caps thicken soups and are popular in Japanese cuisine. Fruity earthy aroma pairs well with dark green veggies, red meat and miso soup. Produces in the cooler temperatures of fall. Grows on oak, aspen, maple and other hardwoods. If planted in beds, use fresh hardwood chips.

***L610A** 100 plugs, $16.50* ***L610B** 500 plugs, $33.00*
***610C** Sawdust Spawn, $25.00*

More mushrooms and tools, next page.

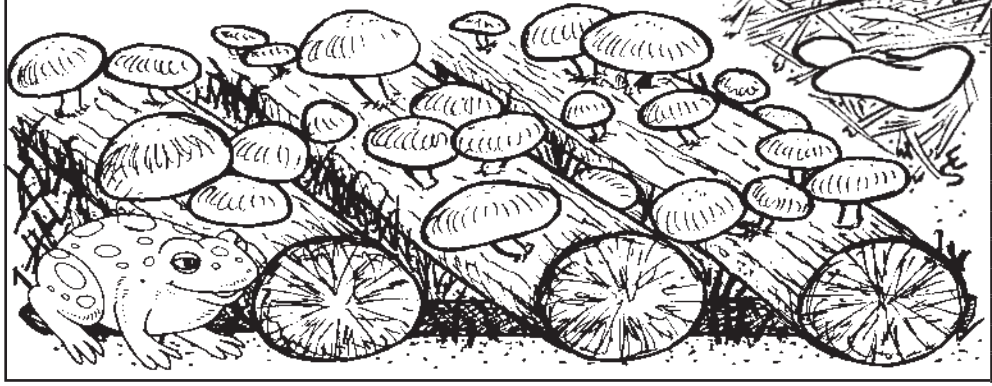
Growing Mushrooms

Log method Drill holes in logs, insert plug spawn or sawdust spawn, then seal with wax. Tools are listed on the next page. Be sure to choose an appropriate tree species for the mushroom (see variety descriptions.) We offer these options for log inoculation:

• **Plug Spawn** 50 plugs will inoculate a single 4' long, 4" diameter log. Drill 5/16" holes (or 8.5mm with angle-grinder adapter) into your log, hammer in the plugs and seal the holes with wax. Plugs are an excellent choice for beginners. **Plugs come in bags of 100 or 500.**

• **Sawdust Spawn** Each bag contains 5½ lbs of hardwood sawdust colonized by mushroom mycelium, enough for about 25 logs. Drill 12mm holes in your logs, pack the sawdust using an inoculation tool and seal with wax. Good for commercial mushroom growers.

Outdoor Bed method Some varieties can be grown in non-sterile outdoor beds of fresh wood chips, sawdust, straw or other organic matter. Plant them under orchard trees or in your garden paths! Layer **Sawdust Spawn** with your growing medium, and keep beds watered. One 5½-lb bag of sawdust spawn will inoculate a 4x4' bed. Once established, a well-maintained bed can produce for many seasons.



Growing methods

Mushroom type	Log method	Bed method
Almond Agaricus		X
Hen of the Woods	X	
Lion's Mane	X	
Chicken of the Woods	X	
Shiitake	X	
Nameko	X	X
Golden Oyster	X	X
Blue Oyster	X	X
Italian Oyster	X	X
Wine Cap		X

More Mushrooms

***Pleurotus* spp. Oyster Mushrooms** grow well on many different hardwood logs; soft hardwoods (poplar, aspen, cottonwood) are best. All three oyster species can also be grown in outdoor beds; they prefer straw to denser wood chips.

***P. citrinopileatus* Golden Oyster**
Tropical oyster strain that thrives in warm weather. Produces beautiful clusters with yellow caps that are a favorite at farmers markets.

L611A *100 plugs, $16.50* ***L611B*** *500 plugs, $33.00*
611C *Sawdust Spawn, $25.00* ***L611D*** *Plug Kit, $30.00*
611E *Countertop Kit, $28.00*

***P. ostreatus* Blue Oyster** Also called **Grey Oyster**. Very popular fleshy firm edible grey-white oyster-shaped caps often found growing on old dying maple trees. Our most productive oyster strain. Reliable and cold tolerant, fruits prolifically in early spring or late fall.

L612A *100 plugs, $16.50* ***L612B*** *500 plugs, $33.00*
612C *Sawdust Spawn, $25.00* ***L612D*** *Plug Kit, $30.00*
612E *Countertop Kit, $28.00*

***P. pulmonarius* Italian Oyster** Clusters of tender brown caps with thick white stems. Considered to be one of the finest culinary oysters.

L613A *100 plugs, $16.50* ***L613B*** *500 plugs, $33.00*
613C *Sawdust Spawn, $25.00* ***L613D*** *Plug Kit, $30.00*

***Stropharia rugosoannulata* Wine Cap** Vigorous red-capped fruiting bodies for growing in outdoor beds. Prefers hardwood chips but will grow on a mix of soft and hard. Once established, they will produce for several years and can be easily transplanted to fresh woody debris.

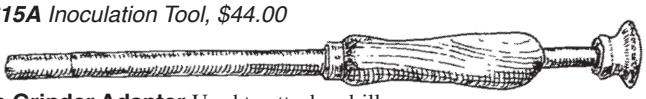
614C *Sawdust Spawn, $25.00*

Mushroom-growing Tools

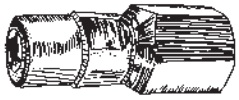
For log inoculation, you'll need some tools. Here are a few essentials to get you started:

Inoculation Tool A simple hand tool for rapid inoculation of hardwood logs with sawdust spawn. (Not needed for plug spawn.) Drill holes with 12mm bit for best results.

L615A *Inoculation Tool, $44.00*



Angle Grinder Adapter Used to attach a drill bit to an angle grinder to increase speed on large projects. Fits 5/8" spindle and takes both 12mm and 8.5mm drill bits.

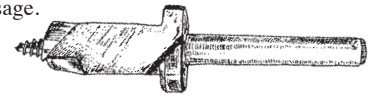


L616A *Angle Grinder Adapter, $55.00*

Low-Speed 5/16" Drill Bit For small-scale plug-spawn projects.

L617A *Low-Speed 5/16" Drill Bit, $7.00*

High-Speed Drill Bits Specifically made for log inoculation, designed to clear the hole of sawdust as it drills to a set depth that matches plug length or sawdust dosage. For large projects, we recommend an angle grinder adapter with an 8.5mm bit for plug spawn or a 12mm bit for sawdust.

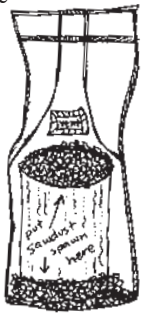


L618A *8.5 mm High-Speed Drill Bit with Stop Collar, $22.00*
L619A *12 mm High-Speed Drill Bit with Stop Collar, $22.00*

Sealing Wax A clear food-grade paraffin wax ideal for sealing holes in inoculated logs. One pound of wax is enough to seal about ten 4'-long logs. Sealing the holes is critical to success because it protects the spawn from drying out and from contamination. Wax is in granular form.

L620A *Sealing Wax, 1 lb, $6.00*

XL Filter-Patch Bags Chicken of the Woods and Hen of the Woods are prone to being out-competed by other fungi. This makes them unreliable producers. For these two varieties, we strongly recommend heat-treating and incubating your logs in filter-patch bags to provide a blank slate for your desired species. Each bag fits a 1'-long, 8"-diameter log segment. One bag of **Sawdust Spawn** will inoculate about 10 log segments—you'll need one bag per segment. The 5-micron filter allows for ample gas exchange. More detailed instructions for heat-treating logs will come with your order. Bag is 3mil thick polypropylene, 10x5x24". Pack of 10 bags.

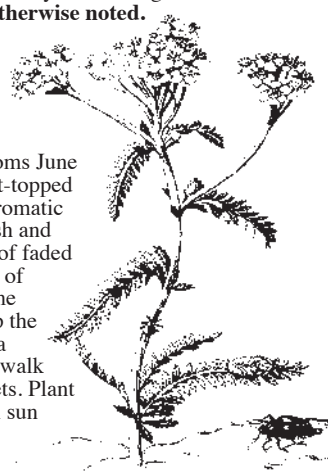


L621A *XL Filter-Patch Bags, package of 10, $20.00*

Herbaceous Perennial Plants

USDA hardiness zone (chart on page 71) follows each description. All our plants are nursery propagated. They are not dug from the wild! **All plant stock is bare root unless otherwise noted.**

Organic after item name means the plants were grown at Ripley Farm, a MOFGA-certified organic nursery in Dover-Foxcroft, ME.



***Achillea millefolium* Yarrow** Blooms June through September featuring 2–3" flat-topped flowerheads. Ferny green foliage is aromatic when crushed. Excellent filler for fresh and dried arrangements. Prompt removal of faded flowerheads guarantees a long season of blooms. Colors can fade out in extreme humidity but regular cutting will keep the blooms looking bright and fresh. It's a sweet and easy early morning task to walk the yarrow path and cut quick bouquets. Plant 12–24" apart in well-drained soil, full sun to part shade. (For white yarrow, see page 63.) Z3.

***A. m.* 'Oertel's Rose'** 12–15" tall. Deep rose-pink flower clusters. One of the most well-behaved yarrows we've seen—not messy or floppy in windy weather like some of the taller varieties. (2 1/4" plug stock)

L675 ***A****: 3 for $16.25* ***B****: 6 for $28.25*

***A. m.* 'Paprika'** 18–36" tall. Handsome bright red flowerheads. Each tiny blossom within the cluster has a sunny yellow center. Draws a crowd when we have friends over for barbecue. (2 1/4" plug stock)

L676 ***A****: 3 for $16.25* ***B****: 6 for $28.25*

***A. m.* 'Summer Berries' - Organic** 24" tall. Mix of colors including salmon, apricot, yellow, cherry red, white, pink, cream, two-tone pink and more. **ME Grown.**

L677 ***A****: 1 for $9.50* ***B****: 2 for $16.50* ***C****: 3 for $22.25*

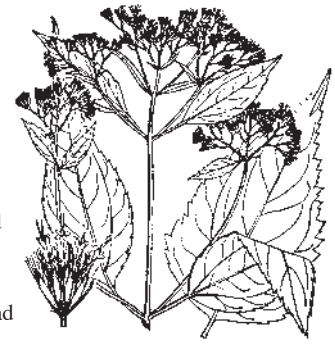
***A. m.* 'Terra Cotta'** 18–36" tall. Flowerheads start out dusky peachy-apricot with yellow undertones and gradually mature to a stunning coppery-bronze. One of our favorites! (2 1/4" plug stock)

L678 ***A****: 3 for $16.25* ***B****: 6 for $28.25*

***Aconitum napellus* English Monkshood** 36–40" tall. Also called **Friar's Cap**. Produces a mass of late-summer blooms with dense showy spikes of dark violet-blue helmet-shaped flowers above elegant palmate foliage in late summer. Grand delphinium-style blooms rarely need staking. An excellent cutflower—cut when 1/3 to 1/2 the spike is in bloom. We love watching bumblebees disappear under the hood then clamber out covered in pollen. *Caution: the entire plant is poisonous*; wash your hands after handling or cutting. Prefers partial shade. Plant 15–20" apart in moist soil. Native to Europe. Z3.

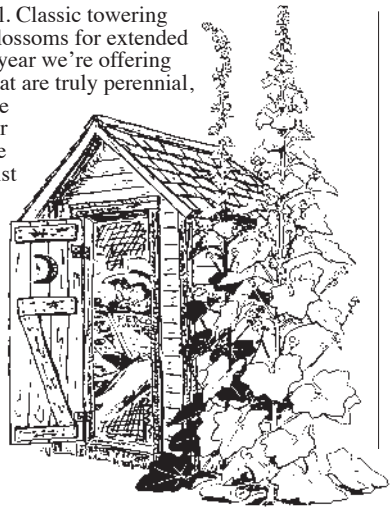
L679 ***A****: 3 for $11.75* ***B****: 6 for $20.25*

***Ageratina altimissa* White Snakeroot - Organic** 3-5' tall. North American native plant attracts late-season pollinators with multiple flat-topped clusters of small pure white disk flowers with fuzzy protruding styles held above dark green heart-shaped coarse toothed, slightly hairy foliage. Makes nice filler for bouquets. Blooms August through October, attracting multiple species of bees, moths and butterflies. Can be toxic to mammals when eaten—most wild animals avoid the bitter foliage, but pastured livestock isn't always so discerning. Spreads by both seed and underground rhizomes. Deadhead after blooming to let it know who's boss. Plant 3' apart in rich moist soil, part sun, part shade. Z3. **ME Grown.**



L680 ***A****: 1 for $9.50* ***B****: 2 for $16.50* ***C****: 3 for $22.25*

***Alcea rosea* Hollyhock** 5–6' tall. Classic towering spires covered with disc- shaped blossoms for extended bloom from June to October. This year we're offering all first-year–flowering cultivars that are truly perennial, not biennial like most Alceas on the market. Cut plants back to 12" after flowering has finished to encourage root growth. Plant 12" apart in moist well-drained soil. Native to China. Z3. (2½" plug stock)



***A. r.* 'Purple Rain'** True purple single blossom with a small yellow eye.

L681 ***A**: 1 for $5.50*
***B**: 3 for $14.00*
***C**: 6 for $25.00*

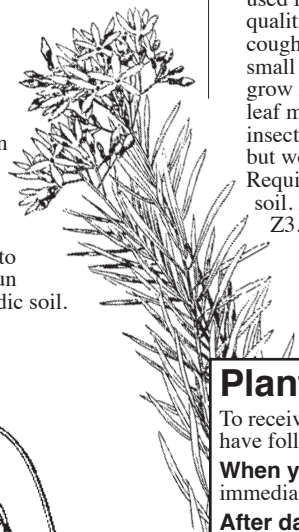
***A. r.* 'Sunshine'** Classic single happy yellow hollyhocks.

L682 ***A**: 1 for $5.50*
***B**: 3 for $14.00*
***C**: 6 for $25.00*

***Allium* 'Little Sapphire' Flowering Onion** 12" tall. Round dense clusters of deep purple star-shaped flowers held above tidy upright clumps of strappy glossy grey-green foliage. Sweet-scented blooms make great cutflowers or dried winter arrangements whether you cut them before or after the green seed pods form. Attracts beneficial insects with its sweet nectar yet repels an array of undesirables—slithery, winged and legged pests alike—including deer. Only if crushed will the plants smell like an onion. Adds rugged charm and vertical structure to herb and rock gardens. If you planted Millenium last year, you'll want to try this little gem next, which blooms just a bit later in mid to late summer. Z4.

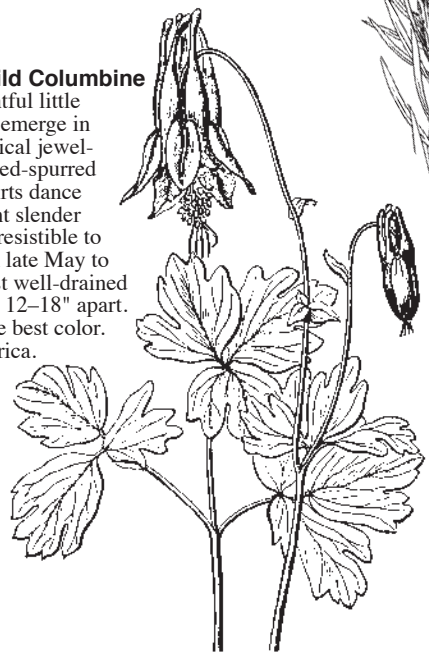
L683 ***A**: 1 for $7.50*
***B**: 3 for $19.50*
***C**: 6 for $35.00*

***Amsonia tabernaemontana* var. *salicifolia* Willow-leaf Bluestar - Organic** 30" tall. Clusters of deep blue pointed flower buds form and open into powder-blue star-shaped florets held above deep green fine grassy willow-like foliage. Blooms in early June in northern Maine. Gorgeous foliage turns gold in the fall. Best planted en masse. Forms a handsome vase shape at maturity. Looks fabulous with catmint and irises. Prefers moist woodland slopes. Adaptable to most garden environments but performs best in full sun to part shade. Plant 12–18" apart in moist slightly acidic soil. Native from Illinois south to Texas. Z3. **ME Grown.**



L684 ***A**: 1 for $9.50*
***B**: 3 for $24.75*
***C**: 6 for $44.50*

***Aquilegia canadensis* Wild Columbine Organic** 12–24" tall. Delightful little stacks of round-lobed leaves emerge in early spring. Soon after, magical jewel-like nodding blossoms with red-spurred sepals and yellow petaled skirts dance above the foliage. The elegant slender spurs are filled with nectar irresistible to hummingbirds. Blooms from late May to early June. Prefers light moist well-drained soil. Nice planted in clusters, 12–18" apart. Dappled shade guarantees the best color. Native to eastern North America. Z3. **ME Grown.**



L685 ***A**: 1 for $9.50*
***B**: 3 for $24.75*
***C**: 6 for $44.50*

***Arisaema triphyllum* Jack-in-the-Pulpit** 12–24" tall. In midspring, one or two compound leaves appear close to the ground, each with three leaflets framing an upright stem topped by a striped tannish-purple 3" long cuplike spathe (the pulpit) that contains and arches over the erect greenish-yellow spadix (Jack). It's always a delight to lift the flap and see Jack. This magical Northeastern native prefers dappled shade and moist rich woodland soil. Plant 10–18" apart. Z3.

L686 ***A**: 3 for $13.25*
***B**: 6 for $23.00*
***C**: 12 for $41.25*

***Armeria maritima* 'Splendens' Sea Thrift** Also known as **False Sea Pink**. 8–10" tall. Bright carmine-rose ball-shaped flowers bloom all spring on long lanky leafless stalks held above tight mounds of silvery evergreen grassy foliage. Makes a tidy clump in the rock garden or container, but also great planted en masse as a groundcover. Tolerates hot dry rocky soils and grows beautifully along the coastline or highway where few other garden plants can tolerate the high salt concentrations. Shear faded flowerheads for attractive little clumps of foliage throughout the season. Resents being moved—choose a spot near the front of your garden and leave it there. Prefers full sun. Requires well-drained soil. Plant 8–12" apart. Light loose winter mulch recommended. Species native to mountains and coastal regions of the northern hemisphere. Z3. (2" plug stock)

L687 ***A**: 1 for $6.00* ***B**: 2 for $10.50* ***C**: 3 for $14.25*

***Asarum canadense* Canadian Wild Ginger** 6–12" tall. Heart-shaped leaves up to 7" wide will spread into a beautiful groundcover. Leaves are large and slightly fuzzy, not small and glossy like the European species. Aromatic roots used like other gingers for their warming qualities and for soothing indigestion, coughs, colds and motion sickness. The small reddish-brown urn-shaped flowers grow near the soil surface or in the surface leaf mold, pollinated by crawling insects. Flowers are fun to search for but won't decorate your landscape. Requires shade and moist rich woodland soil. Native to eastern North America. Z3. (2½" plugs in pots)

L688 ***A**: 3 for $24.75*
***B**: 6 for $43.00*
***C**: 12 for $77.25*

Planting Guide for Bare-root Perennials

To receive our guarantee (see page 2) for items on pages 56 to 66, you must have followed these instructions:

When you receive your order, open the bags and check the plant stock immediately. Roots and crowns should be firm and pliable, not soft or brittle.

After danger of freezing has passed:

- Dig a hole 2 or 3 times bigger than the plant stock.
- Add a little compost if needed.
- Fan or spread out the roots to encourage root development.
- Fill hole with soil, pressing out air pockets as you go.
- Keep the planting area free of weeds.
- Mulch *around* the crown with straw or woodchips.
- Avoid applying mulch directly on top of crowns as they could rot.
- Mark the location with a plant label.
- Check your plants daily in the first 2 weeks after planting!

If you cannot plant right away, you have two options:

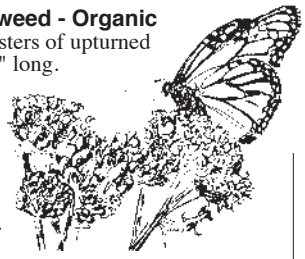
1. Store bags of bare-root plants in a dark and cool (35–40°) place.

2. Pot up plants in well-drained slightly moist potting mix. Avoid coiling the roots in the bottom of undersized containers. Set pots in a protected spot in part-shade until you're ready to plant.

You must protect your herbacious perennials from:

- Freezing
- Sun-shock in the first 2 weeks
- Long periods of cold and wet conditions
- Too much or too little water
- Absentee gardening!

***Asclepias incarnata* Swamp Red Milkweed - Organic**
5' tall. Forms unique fragrant flat-topped clusters of upturned rosy red flowers. Willow-like leaves are 4–5" long. Clump-forming; great for naturalizing. Attracts bees, butterflies and hummingbirds. We've been noticing increased numbers of monarch butterflies in our gardens—plant more milkweed! Grows naturally in floodplains and wet meadows. Plant 18–36" apart in moist soil. Native to North America. Z3. **ME Grown.**

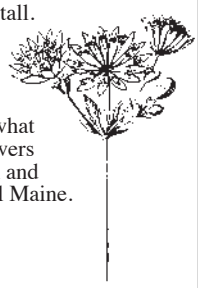


L689 ***A**: 1 for $10.25* ***B**: 2 for $18.00* ***C**: 3 for $24.25*

***Asclepias tuberosa* Butterfly Weed** 24" tall. This brilliant summer wildflower features vivid tangerine-orange clusters of flowers atop slender fuzzy stems, covered with green lance-shaped leaves. Spent flowerheads transform into prominent spindle-shaped seed pods that make a unique addition to mixed bouquets. The fleshy taproot will not tolerate clay or low ground. The very last to emerge in spring—be patient. Plant in full sun, 18–24" apart in well-drained fertile soil. Native to eastern and southern North America. Z4.

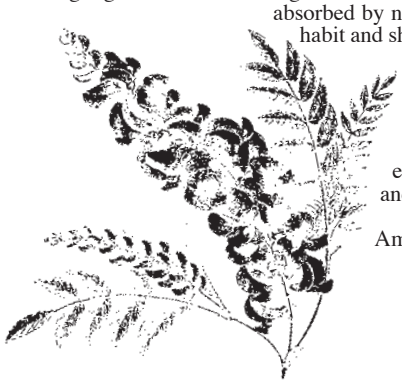
L690 ***A**: 1 for $10.25*
***B**: 2 for $18.00*
***C**: 3 for $24.25*

***Astrantia* 'Burgundy Manor' Masterwort** 24-28" tall. Compact umbels of burgundy flowers surrounded by rosettes of bracts appear on airy branched deep red stems held above deeply lobed green foliage. Clump-forming perennial makes an excellent groundcover when planted en masse. We've observed it to be somewhat resistant to slugs and snails. Makes long-lasting cutflowers and is also a great container plant. Prefers morning sun and afternoon shade. Blooms June to August here in central Maine. Plant 12–18" apart in moist poorly drained soil. Z4.



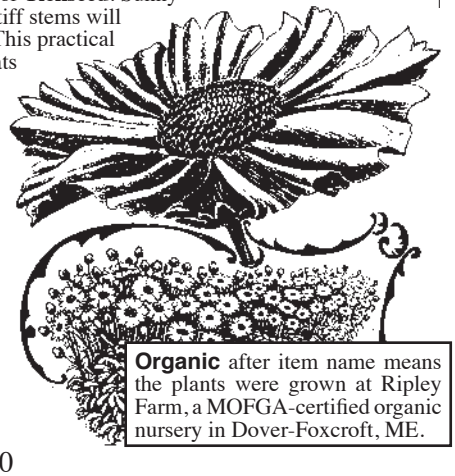
L691 ***A**: 1 for $8.50*
***B**: 3 for $21.75*
***C**: 6 for $39.00*

***Baptisia australis* Blue False Indigo - Organic** 3–4' x same. An early summer stand-out with vibrant blue lupine-like flowers. Nitrogen-fixing legume transfers nitrogen from the air to the soil where it can be absorbed by neighboring plants. Has a bushy habit and shrub-like structure once mature. Seed pods turn black in fall, adding interest to the autumn landscape. Will develop an extensive root system, good for holding slopes to prevent erosion. Plant 3' apart in full sun and well-drained acid soil. Native to eastern and central North America. Z3. **ME Grown.**



L692 ***A**: 1 for $9.50*
***B**: 3 for $24.75*
***C**: 6 for $44.50*

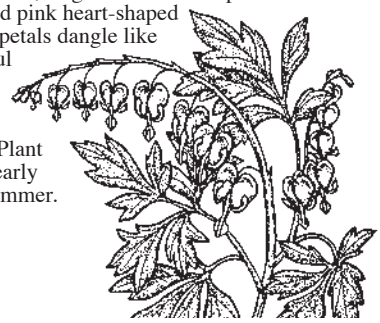
***Coreopsis palmata* Prairie Coreopsis - Organic** 2' tall. Also called **Stiff Coreopsis** or **Tickseed**. Sunny yellow flowers held above stiff stems will attract scads of honeybees. This practical prairie plant forms dense mats of underground rhizomes that can help stabilize hot dry slopes. Plant in full sun, in well-drained dry gravelly soil. Blooms June-July. Deadhead flowers to encourage a second bloom. Native to central U.S. Z3. **ME Grown.**



L693 ***A**: 1 for $9.50*
***B**: 2 for $16.50*
***C**: 3 for $22.25*

Organic after item name means the plants were grown at Ripley Farm, a MOFGA-certified organic nursery in Dover-Foxcroft, ME.

***Dicentra spectabilis* Old-Fashioned Bleeding Heart**
30–36" tall. Also called **Lyre Flower**, its genus has been updated to **Lamprocapnos**. Perfectly formed pink heart-shaped flowers with delicate white inner petals dangle like charms on bracelets along graceful racemes above attractive clumps of cut foliage. This classic hardy long-lived perennial thrives in rich moist soil and partial shade. Plant 2–4" deep, 24" apart. Blooms in early to mid spring, goes dormant in summer. Native to eastern Asia. Z3.



L694 ***A**: 1 for $6.75*
***B**: 3 for $17.25*
***C**: 6 for $31.00*

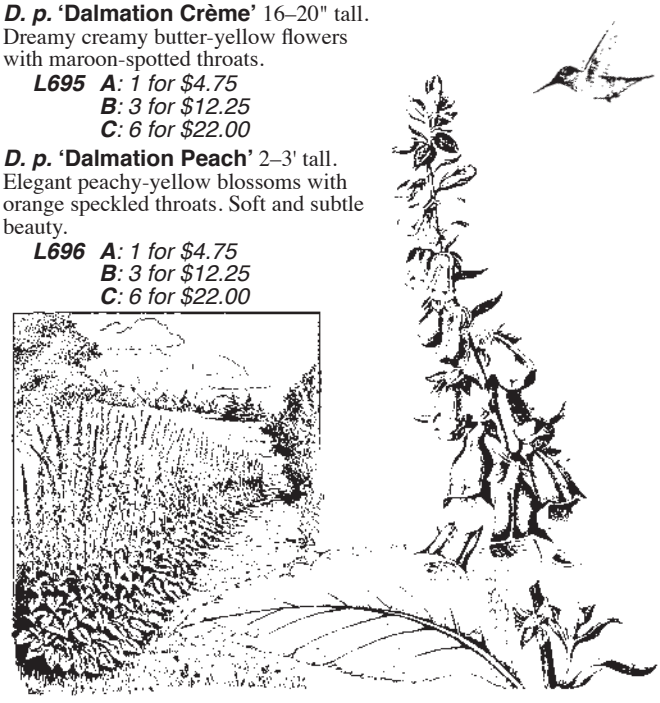
***Digitalis purpurea* Foxglove** Delightful tubular bell-shaped flowers with veined and spotted throats form along stately spires above basal rosettes of deep green velvet foliage. Flowers June through August. Good for cutting or the naturalized border. A must-have in every cottage garden. This year's offerings are both considered perennial but are best treated as biennials. If seedlings appear, spread them out for a glorious patch in a few years. Plant 12–24" apart in moist slightly acid soil in full sun to part shade. Native to Europe. *Caution: all parts of the plant are poisonous*; wash hands after handling. Z3. (2½" plug stock)

***D. p.* 'Dalmation Crème'** 16–20" tall. Dreamy creamy butter-yellow flowers with maroon-spotted throats.

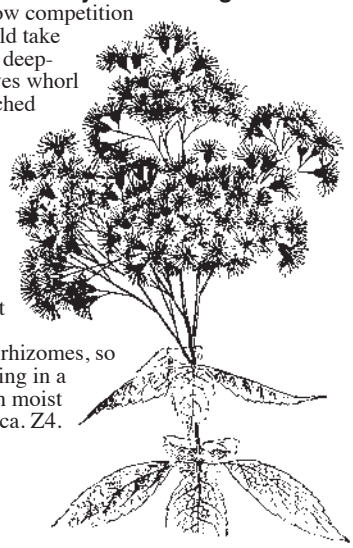
L695 ***A**: 1 for $4.75*
***B**: 3 for $12.25*
***C**: 6 for $22.00*

***D. p.* 'Dalmation Peach'** 2–3' tall. Elegant peachy-yellow blossoms with orange speckled throats. Soft and subtle beauty.

L696 ***A**: 1 for $4.75*
***B**: 3 for $12.25*
***C**: 6 for $22.00*

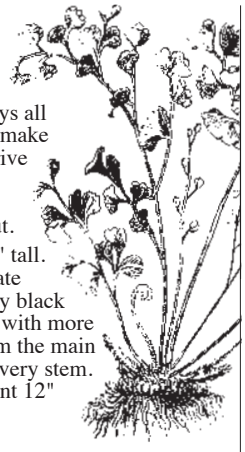


***Eutrochium maculatum* Spotted Joe Pye Weed - Organic**
4–7' tall. If there were a Best in Show competition for native wildflowers, this one would take the cake for character. Considerable deep-green toothed and lance-shaped leaves whorl in sets of five around sturdy unbranched bewhiskered purple-spotted stems. Whimsical flat-topped terminal flower clusters with feathery lavender-rose disc florets dance on top. Blooms take the stage in mid-July and perform well into August, attracting a plethora of pollinators. Blossoms mature into soft tawny seed clusters that add unique interest to the winter landscape. Readily spreads from seed and underground rhizomes, so plant it thoughtfully if you are working in a small space. Prefers full sun and rich moist soils. Native to eastern North America. Z4. **ME Grown.**



L697 ***A**: 1 for $9.50*
***B**: 2 for $16.50*
***C**: 3 for $22.25*

Ferns are flowerless spore-producing perennials, represented by more than 10,000 species worldwide, ranging from 70' tropical tree ferns to teensy plants sprouting from cracks in alpine rock. In Maine we enjoy lush fern displays all summer on the roadsides and in the woods. Ferns make wonderful low-maintenance foliage plants that thrive in woodsy humus-rich soil and lend a serene aura to a shady garden or landscape. Mulch with 2" of leaves if necessary to keep crowns from drying out.



Adiantum pedatum **Maidenhair Fern** 10–12" tall. Also known as **Eastern Maidenhair Fern**. Delicate whorled form makes it one of our favorites. Glossy black stems curve up and then droop toward the ground with more narrow black stems growing in elegant arches from the main stem. Tiny distinct ginkgo-like green leaves line every stem. Prefers partial shade and slightly alkaline soil. Plant 12" apart. Native to eastern North America. Z2.

L698 ***A**: 6 for $23.00*

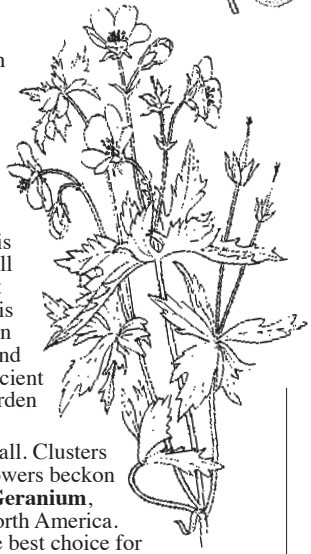
Dryopteris marginalis **Leatherwood Fern** 24" tall. Also known as **Evergreen Wood Fern**. Strong sturdy stems and slightly glossy leathery grey-green fronds make this one of the best ferns for floral arrangements. In late spring it's great fun to look for immature sori (spore cases) on the underside of the frond. Hunt for small green bumps along the margins of the subleaflets. Later in the year, the sori change color to rusty-brown. Evergreen leaves flourish through the winter and can be found in rocky wooded slopes in Canada, onwards south to Alabama and farther west to the Rocky Mountains. Performs best in less than 3 hours of sunlight per day but will tolerate more if you ask nicely. Plant 12" apart in moist well-drained woodland soil. Z3.

L699 ***A**: 6 for $26.50*

Osmunda regalis **Royal Fern** Up to 6' tall and 9' wide at maturity. Attains giant proportions, with soft and wavy deciduous lance-shaped light green fronds can reach 3' long. Sometimes called **Flowering Fern** because some of the fronds have brown spore cases on their tips that lend a decorative tassel-like appearance. One of the showiest garden ferns, a great focal point at the waterside or in a woodland. Evolutionarily speaking, *Osmunda* is one of the oldest plant genera, native to North and South America and Asia. Some Royal Fern individuals are said to be 1000 years old. Ours are much younger. Prefers wet boggy areas and part shade. Plant 18" apart in consistently moist soil. Z2.

L700 ***A**: 6 for $26.50*

Geranium **Cranesbill** Vigor, longevity, hardiness, lo-o-ong flowering period and lush attractive deeply cut leaves make this North American native useful for borders, edging, rock gardens or as an orchard companion. After bloom, distinctive long narrow "cranesbill" seed pods flutter jauntily above the spreading foliage, which quickly forms dense clumps and turns a rich red in fall. Name confusion may be a big reason why this attractive easy-to-grow genus is not more well known: the popular bedding and indoor plant with big red flowers widely called geranium is actually *Pelargonium*. For best results plant in the lightly shaded areas of wild open woodland gardens or in the orchard underneath your ancient apple trees. Plant 12–18" apart in average garden soil. Z4.



G. maculatum **Spotted Cranesbill** 24" tall. Clusters of single 1¼" pinkish-lilac saucer-shaped flowers beckon the native pollinators. Also known as **Wild Geranium**, this is the true geranium, native to eastern North America. Low-growing spreading groundcover and the best choice for planting in the orchard.

L701 ***A**: 3 for $10.50* ***B**: 6 for $18.00* ***C**: 12 for $32.50*

G. pratense **'Orion'** 20–24" tall. Clusters of single 1" sapphire-blue flowers with violet veins. Blooms continuously from late spring through fall, the first big flush of flowers arrives in late May, with a lighter repeat bloom cycle continuing well into autumn.

L702 ***A**: 1 for $5.50* ***B**: 3 for $14.00* ***C**: 6 for $25.00*

Helenium autumnale **Red and Gold Sneezeweed Mix - Organic** 4–5' tall. Supposedly used for snuff in earlier times, hence the common name. A rich and blazing scheme of bronze, brown, crimson and yellow for a vibrant end-of-summer display. Single flowers resemble coreopsis in shape but have a large center button much like a coneflower. Combine with asters and phlox for great late-season color. Not fussy, easy to grow, excellent cutflower. At its prime when most perennials are done blooming. Plant 18" apart in full sun. Native to North America. Z3. **ME Grown.**

L703 ***A**: 1 for $9.50* ***B**: 3 for $24.75* ***C**: 6 for $44.50*

Hemerocallis **Daylily** Champion low-maintenance perennial produces a bush of narrow arched leaves topped with lily-shaped flowers from July to September. *Hemerocallis* means 'beautiful day,' referring to the fact that each flower lasts only a day, but since each scape (or stem) is covered with buds, bloom periods can be extensive and the long stems work well in bouquets. Trouble-free, chokes out weeds. Flourishes under a wide range of conditions, from full sun to shade, wet to dry. Plant 12–18" apart in average soil; benefits from an annual shovelful or two of compost. Native to eastern Asia. This year's stock is one-year-old field-grown rootstock with two fans. Z2.

H. **'Catcher in the Eye'** 30" tall. Lavender-purple flowers with a craggy dark purple eye, bright yellow throat and plum-lined picotee edge. This daylily is no phony—once established, expect up to 30 flowers per scape in early to midsummer.

L704 ***A**: 1 for $7.75* ***B**: 3 for $20.00* ***C**: 6 for $36.25*

H. **'Entrapment'** 26" tall. Sure to snare with its gently veined petals in serene shades of violet with lavender-white racing stripes, citron-yellow throats and ruffled edges. Some folks have reported 32 flowers per stem at full maturity. Midseason re-bloomer.

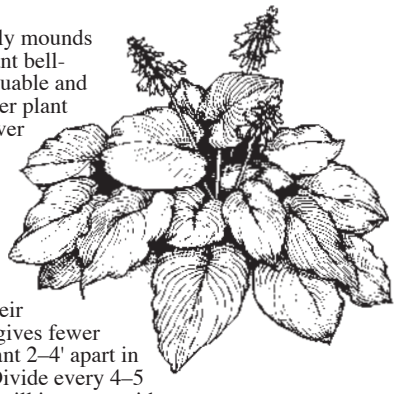
L705 ***A**: 1 for $7.75* ***B**: 3 for $20.00* ***C**: 6 for $36.25*

H. **'Hyperion'** 30" tall. On dense foggy mornings, bright clear Hyperion peers through the gloom with intensely fragrant 5" trumpet-shaped lemon-yellow flowers. Widely planted on old farmsteads in Maine, where it became popular in the 1920s. Famous for its heavenly scent, extended blooms—flowers stay open for nearly 16 hours—and ability to rebloom later in the season. Hyperion remains a favorite and is a must-have in the naturalized perennial border. Midsummer blooms.

L706 ***A**: 3 for $13.50* ***B**: 6 for $23.25* ***C**: 12 for $42.00*

H. **'Primal Scream'** 24" tall. Let this daylily keep you company as you scream into the void. Giant 7–8" glowing diamond-dusted tangerine blossoms with apple-green throats. Unusually narrow recurved twisting tepals with a slight ruffled edge. Elegant and disheveled at the same time. Early to midseason blooms, which means early July here in central Maine. Dormant foliage. Tetraploid.

L707 ***A**: 1 for $7.75* ***B**: 3 for $20.00* ***C**: 6 for $36.25*



Hosta Bold foliage forms orderly mounds with dependable sprays of fragrant bell-shaped flowers on tall stalks. Valuable and cherished low-maintenance border plant provides shade-loving groundcover from spring to frost. With their varying colors, textures and clump sizes, hostas alone under trees can make a woodland garden. Hostas tolerate a wide range of soil conditions but need moisture. Those with blue and variegated leaves develop their best color in shade. Deep shade gives fewer flowers but better leaf colors. Plant 2–4' apart in rich soil with adequate humus. Divide every 4–5 years, or leave them alone; they will improve with age as they spread and establish. Native to eastern Asia. Z3.

H. **'Blue Hawaii'** 42" tall and 30" wide. Solid smoky blue-green rounded lightly puckered leaves and fragrant white flowers. Foliage maintains good color throughout summer and develops a slightly upright vase-shaped appearance. Will tolerate some sun.

L708 ***A****: 3 for $22.00*

H. **'Jurassic Park'** Glorious giant cascading clumps of puckered blue-green leaves that measure 17" long and 15" wide! Stunning planted as a specimen with fetching lavender flowers. Generally grows 40" tall and 80" wide but we advise you to give this beast plenty of room to spread—the original grower's plant spanned a shocking 9' after 12 years!

L709 ***A****: 3 for $22.00*

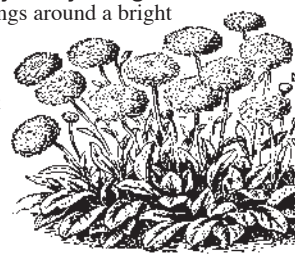
Iris germanica **Tall Bearded Iris Mix** Ranges 24-38" tall. Solid colors or stripes, streaks and stipples on standards and falls. Soft subtle apricot and pinks, bright bold orange, velvety ruby and purples, bold beautiful blues. Multiple 3–6" blooms on each flower stalk. Strong sword-shaped foliage. Beards are soft hairs protruding up from the crest of each fall, often in contrasting colors. Blooming begins in the first real heat of late May or early June. Plant rhizomes horizontally, less than 1" deep, in clusters with new growth facing outward. Plant in full sun, in light limey well-drained soil. May take a year to establish before blooming. Vigorous plants, so give them room to spread. Clumps need dividing every 4–5 years. Z4. (3" plug stock)

L710 ***A****: 1 for $14.00* ***B****: 3 for $36.50*

Iris versicolor **Northern Blue Flag - Organic** 30–36" tall. Northeastern native species carries gorgeous blue-violet flowers with bold purple veining and a white and lemon-yellow blaze. Tall slender blue-green arching lance-shaped leaves offer a strong vertical feature to the landscape. Requires consistently moist soil and prefers 2–4" of shallow standing water. Plant 12–24" apart in full sun to part shade. Early bloom time. Z2. **ME Grown.**

L711 ***A****: 3 for $28.50*

Leucanthemum **x** ***superbum*** **'Crazy Daisy' - Organic** 24" tall. Snow-white petals form fluffy double rings around a bright yellow disk. Starts blooming mid-July here in central Maine and with regular cutting will bloom into fall. Excellent choice for cutflowers. One of the easiest perennials to grow. Plant 12–18" apart in full sun to partial shade in well-drained soil. Z4. **ME Grown.**



L712 ***A****: 1 for $9.50*
B*: 2 for $16.50*
C*: 3 for $22.25*

Liatris **Blazing Star** Also called **Gayfeather**. Stiff dense "bottlebrush" flower spikes tower above fine grass-like foliage. Adds elegant structure to the perennial border and mixed bouquets. For cutflowers be sure to leave at least 1/3 of the stem on each plant for best results. Blooms from July to September. Tolerates a broad range of growing conditions, but not drought. Plant in full sun, 3" deep, 8–12" apart, in well-drained fertile soil. Both species native to eastern North America. Z3. (1 1/4–1 1/2" corms)

L. pycnostachya **Prairie Blazing Star - Organic** 48" tall. North American native with tall brilliant purple wands loved by butterflies. Z3. **ME Grown.**

L713 ***A****: 3 for $23.75*

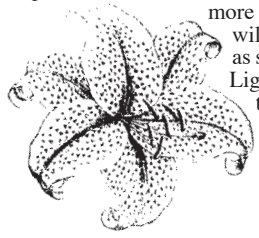
L. spicata **Floristan White** Dreamy white flower wands grow 30–36" tall.

L714 ***A****: 10 for $6.00*
B*: 20 for $10.25*
C*: 50 for $23.00*

L. s. **Purple Blazing Star** Magical magenta-purple flower wands grow 20–30" tall.

L715 ***A****: 10 for $6.00*
B*: 20 for $10.25*
C*: 50 for $23.00*

Lilium **Oriental Lily Mix** 30–44" tall. Queen of the perennial border, fabulously showy and surprisingly easy to grow. Colors range from all-pinks, all-whites, to brilliant bicolors with spots and stripes. The five or more varieties in this mix of fragrant Oriental hybrids will draw a crowd to your garden in August. Good as single specimens or in masses. Great cutflowers. Light shade prolongs summer blooms and keeps the bulbs cool. Plant bulbs 6–8" deep, 6" apart in rich slightly acid well-drained soil. Z3.



L716 ***A****: 3 for $8.50*
B*: 6 for $14.75*
C*: 12 for $26.50*

L. tigrinum **'Citronelle' Tiger Lily** 2–5' tall. Robust variety produces scads of luminous lemon-yellow flowers with recurved petals generously flecked with dark purple dots. Prominent rusty-red anthers produce a beautiful mahogany pollen. Tiger lilies are distinguished by purplish-black bulbils in the leaf axils along the stem. When the plant is happy, the bulbils will drop and sprout baby lilies by the score. Z2.

L717 ***A****: 3 for $8.50* ***B****: 6 for $14.75* ***C****: 12 for $26.50*

Nepeta faassenii **'Walker's Low' Catmint** 2–3' tall, despite its name. Aromatic grey-green foliage with long arching stems topped by lavender-blue flowers provides an eye-catching show of color nearly all summer. Creates a strong dependable low-growing hedge along any garden path. Flowers attract bees, butterflies, hummingbirds and human admiration. 2007 Perennial Plant of the Year. Cut back in midsummer to encourage steady blooms. Likes hot and dry, but will grow in any well-drained soil. Plant 18–24" apart in full sun to part shade. Z3.

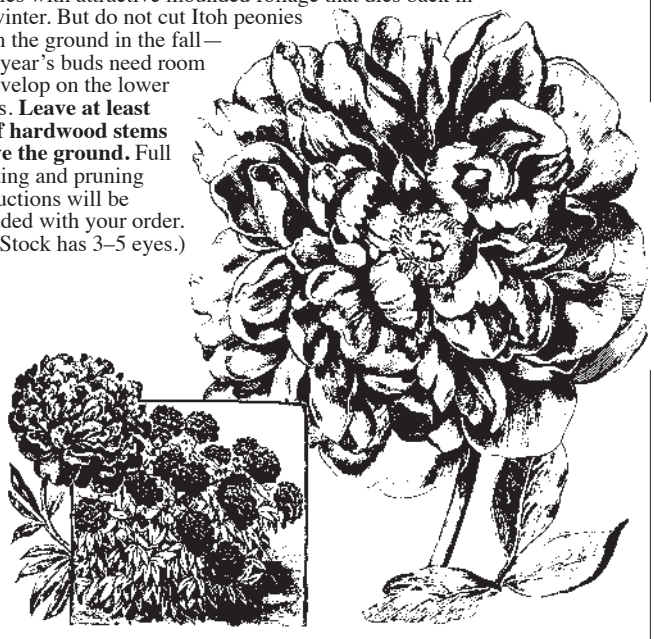
L718 ***A****: 1 for $10.25* ***B****: 2 for $18.00* ***C****: 3 for $24.25*

Oligoneuron rigidum **Stiff Goldenrod - Organic** 2–5' tall. Also called **Rigida**. Formerly classified as a member of the *Solidago* genus and recently reclassified as an *Oligoneuron*. Grower Gene Ripley said it best: "Rigida displays the gorgeous yellow-gold vibrancy of goldenrod, but packed into a dense, showy, flat-topped cluster, with attractive lush slate-green foliage that you'd never recognize as a goldenrod. The pollinators absolutely love it, like all goldenrods, but Rigida draws them in without looking weedy or common. My favorite kind of plant: a native pollinator magnet that holds its own in the garden on looks alone!" Excellent cutflower. Plant in full sun to part shade in rich well-drained soil. Native to eastern North America. Z3. **ME Grown.**

L719 ***A****: 1 for $9.50* ***B****: 2 for $16.50* ***C****: 3 for $22.25*

***Paeonia* Itoh Peony** Also known as **Intersectional Hybrid Peonies**, these wonders are a cross between herbaceous garden peonies and tree peonies and feature the best of both. Named for Toichi Itoh, the Japanese hybridizer who supposedly made thousands of attempts to cross garden and tree peonies. He succeeded in 1948 but did not live to see his seedlings bloom. In the 1970s Toichi's widow gave an American breeder permission to introduce Itoh peonies to the West, where hybridizers took up the intersectional torch.

Giant blossoms (like the ones on tree peonies) open just after the garden peonies have faded. The growth habit is similar to garden peonies with attractive mounded foliage that dies back in the winter. But do not cut Itoh peonies down the ground in the fall—next year's buds need room to develop on the lower stems. **Leave at least 6" of hardwood stems above the ground.** Full planting and pruning instructions will be included with your order. Z3. (Stock has 3–5 eyes.)



***Paeonia* (Itoh) x 'Bartzella'** 30–36" tall. Fragrant 6" semi-double lemon-yellow flower with red flames at the center. Blossoms can display as fully double on occasion.

L720 ***A****: 1 for $31.50*

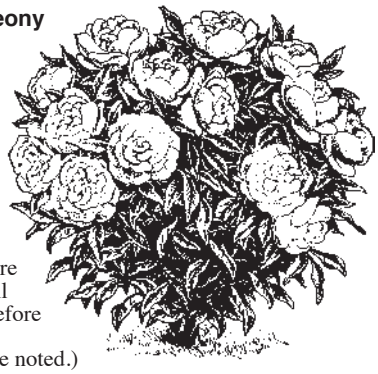
***Paeonia* (Itoh) x 'Pink Double Dandy'** 22–24" tall. Fragrant 4–6" semi-double lavender-pink blossoms with golden centers.

L721 ***A****: 1 for $43.00*

***Paeonia* (Itoh) x 'Singing in the Rain'** 30–46" tall. Lightly fragrant 6" semi-double creamy yellow blossoms become flushed with salmon as they mature.

L722 ***A****: 1 for $43.00*

***Paeonia lactiflora* Garden Peony** Also called **Chinese Peony**. Red shoots appear in spring and form a bushy clump of lustrous dark green deeply lobed foliage. Fat spherical buds on sturdy stems above the foliage gradually open into large beautiful flowers from late spring to early summer. Ants may help the buds open so don't discourage their presence. May take 3 to 5 years to establish before blooming. Wait several years until the plants have many stems (therefore many eyes) before dividing. Z3. (Stock has 3–5 eyes, except where noted.)



***P. l.* 'Festiva Maxima'** 36" tall. Introduced in 1851. Heavenly scented large double white flowers with a light crimson drizzle upon the central petals. Early season blooms. 2–3 eyes.

L723 ***A****: 1 for $14.50* ***B****: 2 for $25.00* ***C****: 3 for $33.75*

***P. l.* 'Kansas'** 36" tall. Vivid crimson-red fully double blooms on very strong stems do not fade in sun. Has set the standard for double reds since its introduction more than half a century ago. Early to midseason.

L724 ***A****: 1 for $12.75* ***B****: 2 for $22.00* ***C****: 3 for $29.75*

***P. l.* 'Sarah Bernhardt'** 36" tall. Introduced in 1906. Fragrant flowers open with narrow red lines shot onto light rose-pink. Matures to delicate pink with a slight creamy-silvery edge. Can a pink be both warm and silvery? This one is. One of our favorites with exactly the right amount of doubling—appears richly full but not crammed. Late season blooms.

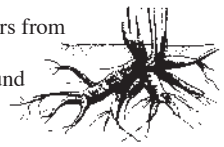
L725 ***A****: 1 for $12.75* ***B****: 2 for $22.00* ***C****: 3 for $29.75*

***P. l.* 'The Fawn'** 32" tall. Introduced mid-20th c. Possibly the most posh peony you will ever set eyes on. Fragrant fully double blossoms feature translucent silky blush-pink petals covered with subtle deeper pink speckles. The overall effect is breathtaking. Sturdy stems not as floppy as most peonies. Late season blooms. Opens just before Sarah Bernhardt and keeps longer in a vase.

L726 ***A****: 1 for $19.25*

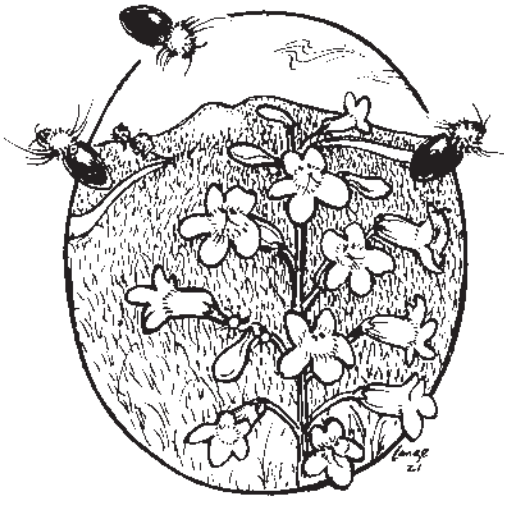
Growing Garden Peonies

- **Peonies prefer:** full sun to part shade, and rich fertile well-drained soil
- **Recommended soil amendments:** compost, bone meal, azomite
- **After danger of frost, transplant** 2–3' apart with the eyes no more than 1 1/2" below the soil.
- **Peonies require support** to prevent heavy flowers from flopping.
- **Autumn plant care:** Cut back to just above ground level to allow a fresh start in spring. Amend soil with compost around the base of the plant.



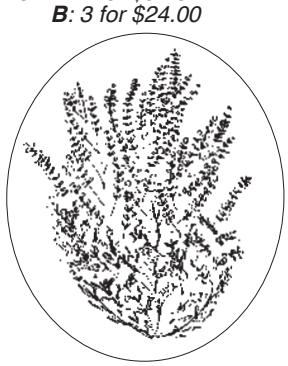
***Penstemon digitalis* Foxglove Beardtongue - Organic** 3' tall. Beckon the birds and bees to your garden with these white to light pink spires covered with nodding tubular bell-shaped flowers. Plant 8–14" apart in full sun to part shade in fertile medium-dry well-drained soil. Will self sow and develop a nice stand over time. Native to eastern North America. Z3. **ME Grown.**

L727 ***A****: 1 for $9.50* ***B****: 2 for $16.50* ***C****: 3 for $22.25*



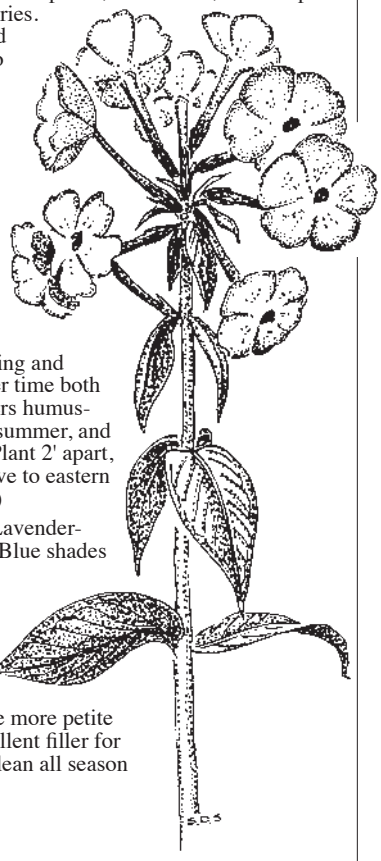
***Perovskia atriplicifolia* Russian Sage** 36–48" tall. Elegant slender spires of lavender-blue tubular flowers in midsummer. Finely divided grey-green leaves are aromatic when crushed. Perovskia has one of the longest bloom times of any blue-flowered plant. Semi-woody shrub emerges slowly in spring; cut back after frost. Tolerates drought, loves heat and full sun, can't bear standing water. Likes to spread out once it gets established—we think it deserves every foot of space it can get! Plant 24–36" apart. We suspect Zone 4 reports of winterkill are from poor drainage rather than cold, so a cautious Z4.

L728 ***A****: 1 for $9.25*
B*: 3 for $24.00*



***Phlox divaritica* 'Blue Moon' Woodland Phlox** 12-18" tall. Compact selection of our native woodland phlox featuring fragrant 5-petaled lavender-blue flowers held above semi-evergreen lance-shaped foliage. Blooms in April and May and spreads by shallow underground rhizomes and layered shoots to create a light ambling groundcover, politely popping up in small colorful patches. Thrives near stream banks and moist woodland meadows but will tolerate drier soils. Plant with Jack-in-the-Pulpit, lungwort and wild columbine for a spring show. Attracts long-tongued pollinators like bumblebees, swallowtails and sphinx moths. Not to be confused with the low-growing moss phlox, *P. subulata*, that creeps around old New England cemeteries. Plant 12" apart in moist rich woodland soil with good airflow. Full shade to part sun. Z3. (2½" plug stock)

L729 ***A****: 1 for $7.50*
B*: 3 for $19.25*
C*: 6 for $34.50*



***Phlox paniculata* Garden Phlox**
Large clusters of fragrant showy long-blooming flowers July through September will accent your garden with wonderful color and spicy vanilla-clove fragrance. Attracts butterflies and hummingbirds. Essential component of late-summer bouquets. Extend flowering by watering and prompt deadheading. Naturalizes over time both by seed and underground roots. Prefers humus-rich soil that stays cool and moist in summer, and benefits from regular side-dressing. Plant 2' apart, full sun to partial shade. Species native to eastern North America. Z4. (2½" plug stock)

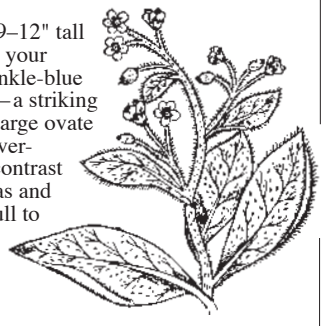
***P. p.* 'Blue Paradise'** 20-36" tall. Lavender-blue flowers with tiny white centers. Blue shades shift with the day's changing light.

L730 ***A****: 1 for $6.00*
B*: 3 for $15.75*
C*: 6 for $28.25*

***P. p.* 'Jeana'** 48" tall. Color-shifting pinkish-lavender flowers with tiny magenta eyes. Blossoms are more petite than the average garden phlox—excellent filler for bouquets. Dark green foliage looks clean all season with impressive mildew resistance.

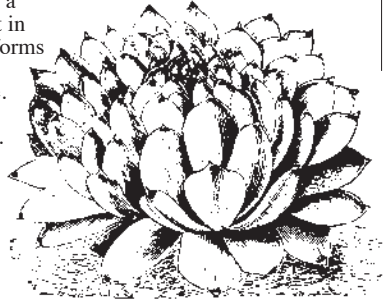
L731 ***A****: 1 for $7.50*
B*: 3 for $19.25*
C*: 6 for $34.50*

***Pulmonaria* 'Mrs. Moon' Lungwort** 9–12" tall and eventually up to 2' wide. Brighten up your shade garden with boldly textured periwinkle-blue buds that open to charming pink flowers—a striking effect when both colors appear at once. Large ovate slate-green leaves are dressed in vivid silver-white splotches. A brilliant early season contrast to blooming daffodils and emerging hostas and ferns. Plant 1–2' apart in moist soil and full to partial shade. Z3.



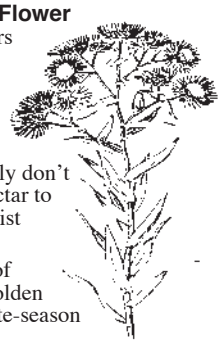
L732 ***A****: 1 for $5.50*
B*: 3 for $14.50*
C*: 6 for $26.00*

***Sempervivum* Hens and Chicks Mix** If you've got boulders in the back forty or a rocky sandy sun-drenched spot in the dooryard, you have the makings for an amazing cascading Sempervivum display. *Sempervivum* means 'always alive.' Low-growing rosette-forming succulents produce runners and babies by the boatload. Drought and heat tolerant, and cold hardy, too! They offer a fun way to learn about fractals—plant them in a strawberry pot with the kids for an easy-to-care-for project, or go whole hog and build a mini-boulder palace all decked out in Hens and Chicks and mosses. Performs best in super-drained gravelly soil with lots of sun and dappled shade. We're offering a mix of varieties including reds, greens and purples. Z3. (2½" pots)



L733 ***A****: 1 for $5.50*
B*: 3 for $14.50*
C*: 6 for $26.00*

***Symphyotrichum* Aster, Starwort or Frost Flower**
Freely branching sprays of brightly colored flowers decorate the autumn landscape throughout the Northeast. Asters add hardy grace to the back of the wild border and will naturalize on banks or in the meadow. Cut back slightly in early to mid June to induce an abundance of 1½–2" rayed blooms from late August into October. Deer usually don't eat them. Asters provide important late-season nectar to hungry pollinators. Plant 12–18" apart in light moist humusy soil in full sun with good air circulation.



***S. dumosus* 'Alert'** 12–15" tall. Tight clusters of semi-double blooms are deep purplish-red with golden eyes. Short compact mounding form. Excellent late-season cutflower. (2½" plug stock)

L734 ***A****: 1 for $7.50* ***B****: 3 for $19.25* ***C****: 6 for $34.50*

***S. laeve* Smooth Blue Aster - Organic** 3-4' tall. North American native. Loose clusters of lavender-blue blossoms with yellow eyes. Smooth blue-green foliage. Z3. **ME Grown.**

L735 ***A****: 1 for $9.50* ***B****: 3 for $24.75* ***C****: 6 for $44.50*

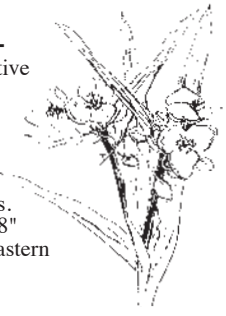
***S. novae-angliae* New England Aster - Organic** 4–6' tall. North American native reaches grand heights! Blooms range from blue-purple to lavender-pink with yellow eyes. Z3. **ME Grown.**

L736 ***A****: 1 for $9.50* ***B****: 3 for $24.75* ***C****: 6 for $44.50*

***Symphytum* x *uplandicum* 'Bocking 14' Russian Comfrey - Organic** 24–48" tall. Highly recommended as a companion plant for orchards. We scythe and gather up the leaves for mulch, or to add to compost piles or compost teas—it is rich in silica, nitrogen, magnesium, calcium, potassium and iron. Clusters of bell-like magenta-purple flowers dangle above the deep green bristled foliage. Russian comfrey is thought to have a higher pyrrolizidine alkaloid content than the species. *S. officinale* (page 65) is preferred for making herbal medicines. Easy-to-grow vigorous plant demands space and if the roots are disturbed *can be very invasive; be careful where you plant it and control with regular harvest*. Plant 24" apart in well-drained soil, sun or shade. Z3. **ME Grown.**

L737 ***A****: 3 root cuttings for $23.75*

***Tradescantia ohiensis* Ohio Spiderwort - Organic** 3' tall. Add shades of blue to your native pollinator garden with attractive blue-green clump-forming grass-like foliage and clusters of 1" lavender-blue 3-petaled flowers with bright yellow anthers. Blossoms open in the morning and close in the heat of the day, May through July. Spreads by underground rhizomes. Tolerates both clay and sandy soils. Plant 12–18" apart in full to part sun. Native to central and eastern North America. Z4. **ME Grown.**



L738 ***A****: 1 for $9.50*
B*: 3 for $24.75*
C*: 6 for $44.50*

***Trollius* Globeflower Sunshine Mix**
24" tall. We are crazy about Trollius, which are like big overgrown hyper-selected buttercups. Spherical to bowl-shaped orangey-yellow double flowers bloom in late spring, around the time of late tulips, on stems above the foliage. Excellent for cutting. The fancy petal-filled flowers seem miraculous blooming so early in the season. Palmately lobed, then further divided and toothed (buttercup-like) leaves form a mound. Ideal for a moist border, streamside, or naturalizing in a damp meadow. Plant 8–12" apart in moist heavy soil, full sun to part shade. Z3.

L739 ***A****: 3 for $16.00*

***Veronicastrum virginicum* Culver's Root - Organic** 4–6' tall. Elegant and towering, with large 9" flower spikes of densely clustered tiny white blossoms that open from the top down in early summer. Lance-shaped leaves form whorls on rugged upright stems that rarely need staking. Bees love this flower. Adds beautiful architecture to the back of the perennial border and is a requirement in any well-built rain garden. Plant 2' apart in full sun, in wet well-drained soil. Native to eastern North America. Z3. **ME Grown.**

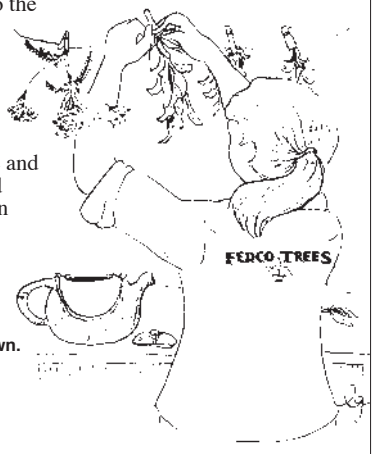
L740 ***A****: 1 for $9.50* ***B****: 2 for $16.50* ***C****: 3 for $22.25*

Culinary and Medicinal Herbs

The following plants have long histories of traditional medicinal or culinary use. It's up to you to educate yourself about the safety and efficacy of using plants for medicinal purposes. The statements in our catalog regarding traditional medicinal uses of plants have not been evaluated by the FDA. The plants we sell are not intended to diagnose, treat, cure, or prevent any disease.

Plants may take a year or more to establish before they flower; roots often take several years to reach harvestable maturity.

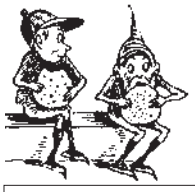
Achillea millefolium **Yarrow - Organic** 24" tall. White flat-topped flower clusters bloom June through September. Excellent orchard companion and beautiful addition to the perennial border, meadow, herb or moon garden. Named for its use by Achilles to staunch battle wounds, has a centuries-old tradition of use as an external styptic. A natural anti-inflammatory, yarrow has been used to regulate the menstrual cycle and combined with other herbs as a cold remedy and to reduce fever. Infusion of flowering tops stimulates healthy digestion and improves circulation. Plant 18–24" apart in full sun and well-drained soil. Species introduced to North American by early European settlers. Z3. **ME Grown.**

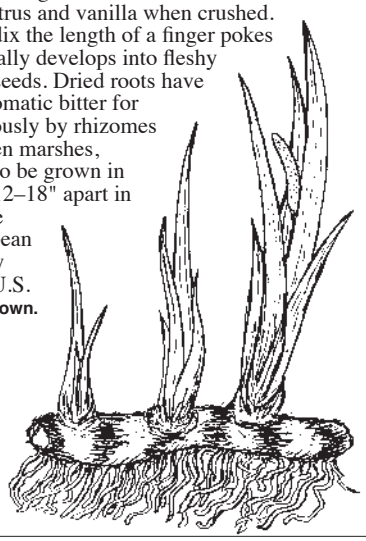


L741 ***A****: 1 for $9.50*
B*: 2 for $16.50*
C*: 3 for $22.25*

Acorus americanus **Sweetflag** 24–36" tall. Hardy herbaceous water-loving bog plant forms striking stands of broad sword-like foliage that smells sweetly of citrus and vanilla when crushed. A spathe-less yellow-green spadix the length of a finger pokes out in early summer and eventually develops into fleshy berries containing two to three seeds. Dried roots have been traditionally used as an aromatic bitter for digestive upsets. Spreads vigorously by rhizomes in quiet shallow waters, wet open marshes, and along the shoreline. Can also be grown in consistently moist garden soil, 12–18" apart in full sun or light shade. Not to be confused with the similar European species, *A. calamus*. Sustainably grown. Native across northern U.S. and southern Canada. Z3. **ME Grown.**

L742 ***A****: 3 for $24.00*





Candied Sweetflag

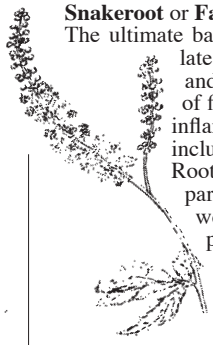
Fedco grower emeritus John Meader shared this recipe, which appears to be from a Shaker cookbook. It was sent to him by Lenny Brooks, Director of the Library and Museum at the Sabbathday Lake Shaker Village. John wrote to us: "At Sabbathday Lake, per Lenny Brooks, sweetflag flourished at the lower wet side of a field where sheep were pastured. The sheep grazed and kept down the competing grasses and bushes. The sheep never consumed any of the flag. The one expanse of flag that I have seen grew in a similar location where cows were pastured. They, too, never ate the sweetflag. This pasture was mowed for meadow hay before the cows were let in; mowing by cutter-bar mower cut back the flag. I'm told that the odor was disgusting to the man who owns the piece and mowed it with his father."

Recipe:

Scrape the flag root with great care. Cut in thin slices across root. Boil gently in equal parts of milk and water for 2 hours. Drain well and add to heavy syrup; boil until syrup is absorbed. Place on waxed paper and while hot powder generously with granulated sugar.

–Sister Ethel, Sabbathday Lake

Actaea racemosa **Black Cohosh** 6–10' tall. Also known as **Black Snakeroot** or **Fairy Candles**; formerly known as *Cimicifuga racemosa*. The ultimate backdrop for the lightly shaded woodland garden. From late July into August, long arching racemes of creamy white and gold serpentine flower spikes soar over a 3–4' mound of fine-textured green compound foliage. Diuretic and anti-inflammatory. Anti-spasmodic for cramps, pains and nerves, included in many premenstrual and perimenopausal formulas. Roots contain salicylic acid. Avoid during pregnancy. Prefers part shade, but tolerates full sun in deep moist soil. Grows well in wet spots. Plant 3' apart in rich moist soil, part sun, part shade. Native to eastern North America. Sustainably grown. Z3. **ME Grown.**

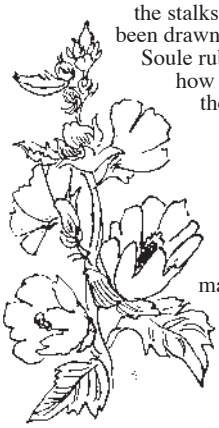


L743 ***A****: 1 for $11.25*
B*: 2 for $19.50*
C*: 3 for $26.50*

Allium schoenoprasum **Chives - Organic** 12" tall. Edible spreading groundcover has a layman's reputation for warding off scab on fruit when planted around the tree. Is thought to act as an aromatic pest confuser, emitting bitter aromas that deter critters from grazing in the garden. Chives are good to eat from early spring to heavy frost. Add greens and starry purple blossoms to omelets for subtle savory onion flavor. Plant 12–18" apart in full to part sun. Z3. **ME Grown.** (1-2" clump)

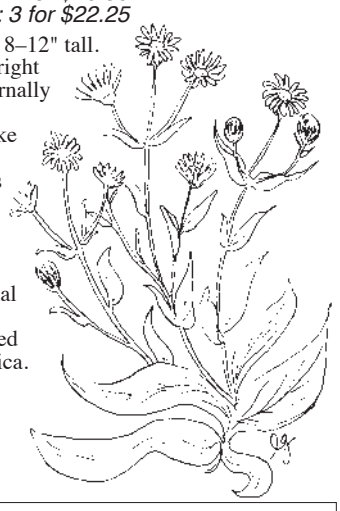
L744 ***A****: 3 for $19.00*

Althaea officinalis **Marshmallow - Organic** 5–8' tall. Small delicate lavender-white flowers with darker lavender stamens along the stalks of this beautiful towering medicinal plant. We've been drawn to marshmallow ever since we saw herbalist Deb Soule rub its soft velvet leaf against her cheek and explain how much the ruby-throated hummingbird appreciates the nectar of marshmallow flowers. The leaf, flower and mucilaginous roots are traditionally used to soothe the mucous membrane linings of the lungs and digestive tract, and to calm the lining of the urinary tract. Leaf is best used fresh for tea, and the dried roots are best when soaked overnight in cool water for tea. Harvest 4-year-old roots for medicinal use. Wonderful in a hedgerow and magnificent planted with black cohosh as they often blossom together in late July and into August. Readily self-sows. Plant 1–2' apart in light moist soil, part sun, part shade. Native to Europe and Asia. Z4. **ME Grown.**



L745 ***A****: 1 for $9.50*
B*: 2 for $16.50*
C*: 3 for $22.25*

Arnica chamissonis **- Organic** 8–12" tall. Low spreading groundcover with bright yellow daisy-like flowers used externally in oils and salves to treat bruises, sprains and inflammation. Never take internally except in homeopathic preparations. In the right conditions a few plants will develop into a dense long-lived patch. Beneficial insect attractor. Blooms in July. Grows successfully in our climate and is a generally accepted medicinal substitute for *A. montana*. Plant in full sun 1' apart in moist well-drained soil. Native to western North America. Z3. **ME Grown.**

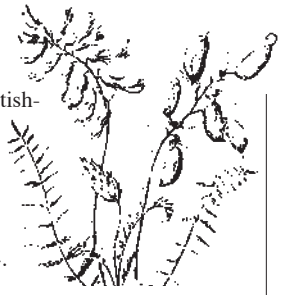


L746 ***A****: 1 for $9.50*
B*: 2 for $16.50*
C*: 3 for $22.25*

Native Plants & The Wild Seed Project

The Maine-based non-profit **Wild Seed Project** (wildseedproject.net) is a great place to learn about growing native plants from seed and incorporating them into the landscape. Wild Seed Project works to increase the use of native plants in all settings in order to conserve biodiversity, encourage plant adaptation in the face of climate change, safeguard wildlife habitat and create pollination and migration corridors for insects and birds. As a small cooperative seeking to provide ethically sourced plants to our customers, we at Fedco have been deeply appreciative of guidance from Wild Seed in helping us determine which plants are at-risk of being pillaged in the wild. If you want to support this important work, you can donate to Wild Seed Project when you order online from us.

***Astragalus membranaceus* Chinese Milk Vetch - Organic**
18–36" tall. Important Chinese medicinal known as ***huang qi***. Deep-rooted leguminous plant forms an upright bush with many stems, each thickly covered with tiny pinnate leaves and small arching racemes bearing rows of whitish-yellow flowers. When used over many months, is known to rebuild the immune system while combating exhaustion. Long-term tonic use is believed to increase stamina and improve resistance to cold temperatures. Harvest 4- to 6-year-old roots in fall. Plant in full sun, 12" apart in deep gravelly well-drained soil. Z4. **ME Grown.**



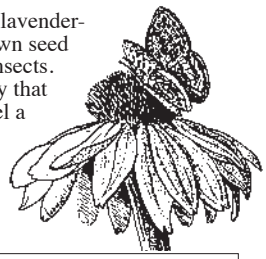
L747 ***A****: 1 for $9.50* ***B****: 2 for $16.50* ***C****: 3 for $22.25*

***Echinacea* Coneflower** 3–5' tall. *Echinos* means 'spiny' and coneflower's spiny seedheads are beautiful surrounded by a single row of reflexed petals. These North American native plants are often over-harvested in the wild. Medicinal benefits vary among the different species. *E. purpurea* and *angustifolia* are considered the standard for making medicinal tincture. *E. paradoxa* shares some of the immune-stimulating compounds as *purpurea* but in our opinion is best planted for the birds and the bees as a complement to your *purpurea* patch. Tolerates wind, heat and drought once established. Will reseed. Plant 20–30" apart in full sun and light sandy soil. Z3.

***E. paradoxa* Yellow Coneflower - Organic**
Bright pure-yellow flowers with drooping petals surround spiky dark brown seed cones—irresistible to gobbling goldfinches! Native to the Ozark Mountains and surrounding areas. **ME Grown.**

L748 ***A****: 1 for $8.00*
B*: 2 for $13.75*
C*: 3 for $18.50*

***E. purpurea* Purple Coneflower** Reflexed lavender-purple petals surround the coppery yellow-brown seed cone. Attracts butterflies and other beneficial insects. Tincture roots of 3-year-old plants for a remedy that boosts the immune system; use it when you feel a cold or flu coming on. Native to eastern and central U.S. Sustainably grown. **ME Grown.**



L749 ***A****: 1 for $9.50*
B*: 2 for $16.50*
C*: 3 for $22.25*

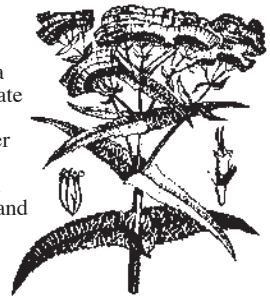
The Good, the Bad, and the Knotweed

On a recent plant walk with Deb Soule of Avena Botanicals, invasive plants were part of the day's discussions. Deb said that random plants pop up on her land all the time, some native and some not. She isn't quick to pull them until she learns more and investigates why they appeared. Sometimes it makes the most sense to yank them, but she offered a poignant piece of advice: When you're pulling these plants, think about how you might use them for food, tea or medicine. Remove them with care and curiosity, not with anger or annoyance.

A plant may be "invasive," but no plant is "bad." Consider the case of salt cedar, a plant native to Eurasia and introduced to the western U.S. in the 1800s to help control erosion. Like Japanese knotweed, which we struggle with here in the Northeast, salt cedar proved to be invasive, and burning it, pulling it and spraying it are useless in stopping its spread. Further disruption from a dam construction project encouraged salt cedar to expand its range. Yet scientists who once wanted to see salt cedar extirpated are rethinking the issue as they learn more about the plant. In landscapes disrupted by humans, this species is filling a gap, and it turns out that eradication programs are more destructive to the land than the plant itself. In Utah, salt cedar is stabilizing stream banks, which allows other native plants to take root rather than wash away. An endangered bird, the southwestern willow flycatcher, is nesting in salt cedar. Now what?! The situation is complicated.

According to Adam Kemberling, research technician at the Gulf of Maine Research Institute, the Gulf of Maine is warming faster than 94.3% of the world's oceans. Our Maine landscape is changing before our eyes. Some shade trees that are not native to this area, like the American sycamore, are thriving in our yard during this summer's drought. They are from seed we collected in New York where hot summers have been a thing for a while. As we face irreversible human-caused climate change, we see that there's room to welcome different plants into our landscape. We also understand the need to pay attention and educate ourselves about how an unfamiliar plant grows and propagates. We don't always know what is the best action, but while we're trying to figure it out, mindfulness in our work will go a long way in helping to repair our planet.

***Eupatorium perfoliatum* Boneset - Organic** 5–7' tall. Also called **Thoroughwort**. Majestic native with flat-topped clusters of creamy-white to milky-lavender flowerheads atop fuzzy upright stems with deeply veined dark green diamond-shaped perfoliate leaves. Traditionally used to alleviate the symptoms of "breakbone fever," now known as dengue fever. Tincture of the flowering tops and leaves induces sweating, stimulates the immune system and acts as a mild anti-inflammatory. Traditionally used as a tea during flu epidemics. Peak bloom is mid to late August, providing a generous late-season supply of nectar for adult butterflies and other pollinating insects. A practical and fetching addition to the wilder part of the orchard and perennial border. Plant 3' apart in moist soil and full sun to dappled shade. Native to eastern North America. Z3. **ME Grown.**



L750 ***A****: 1 for $9.50*
B*: 2 for $16.50*
C*: 3 for $22.25*

***Glycyrrhiza glabra* Licorice - Organic** 3–4' tall. Sweet soothing roots are used to revitalize adrenal glands, treat colds and bronchitis, reduce throat irritation, yet act as an expectorant and anti-spasmodic. Adds sweetness, harmony and palatability to nearly every herbal combination. *Culpeper's Complete Herbal* from 1653 advises that "by many years continuance in a place without removing…will bring forth flowers, many standing together spike fashion, one above another upon the stalk, of the form of pease blossoms, but of a very pale blue colour." Leguminous plant fixes nitrogen. Give it lots of room and keep it weeded so it can create the roots and runners you want. Runners sometimes travel great distances before sending up a shoot—if the soil is loose you can pull up errant runners, coiling them like rope to hang in wreaths above the woodstove, convenient for winter teas. You can interplant small vegetables like onions, lettuce and beans during the first and second years as licorice fills in. Roots attain harvestable size in 3–4 years. Plant 24–36" apart in sandy well-drained soil. Full sun. Mulch to prevent heaving. Z4. **ME Grown.**

L751 ***A****: 1 for $9.50* ***B****: 2 for $16.50* ***C****: 3 for $22.25*

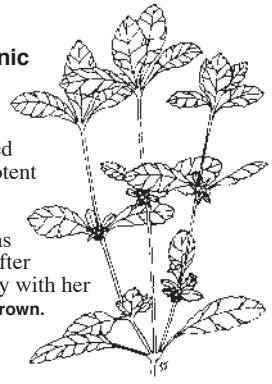
***Lavandula angustifolia* 'Munstead' Lavender**
16–18" tall. Considered the hardiest lavender, with light lavender flowers. Sweet-scented flower spikes extend above aromatic silvery-green lanceolate leaves. Makes a nice border, rockery, slope or specimen plant. Compact habit lends itself to edging walkways. Deadhead spent flowers for blooms all summer. Traditionally used to calm nervous excitability and relieve muscle tension. Plant 12–24" apart in full sun, in moist well-drained soil. Mulch to prevent winter heaving. Z4.

L752 ***A****: 1 for $9.50*

***Levisticum officinale* Lovage - Organic** 6' tall. Looks like a giant celery plant with toothed compound leaves, greenish-yellow umbelliferous flowers and small oval seeds. A dramatic architectural element for an edible border; attracts beneficial insects. Glossy green leaves have a strong celery taste and can be used to flavor soups, stews and casseroles. Crush seeds and add to bread and pastries; candy the stems and roots into a sweet medicinal syrup that is said to restore the appetite and revive the love of life. Second-year plants are best for drying. Formerly used to mask the bitter herbs in medicinal concoctions. Avoid during pregnancy. Plant 24–36" apart in full sun to part shade in rich moist well-drained soil. Native to Europe and Asia. Z3. **ME Grown.**

L753 ***A****: 1 for $8.75*
B*: 2 for $15.25*
C*: 3 for $20.50*

***Melissa officinalis* Lemon Balm - Organic**
24" tall. The Greek word *melissa* means 'honeybee'—the plant in flower attracts them. Yellow-green scalloped lemony leaves are delicious in teas, salads, with fruit, or dried for sachets. Infuse leaves in oil for making potent lemony antiviral topical creams and salves. Plant in full sun in rich well-drained soil. Some say Zone 4, but our clump in Zone 3 has been coming back strong for 13 years, even after our Grammy Ethel Lewis mowed it repeatedly with her John Deere! Native to Europe and Asia. **ME Grown.**

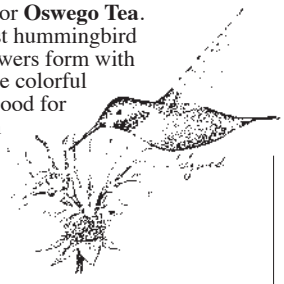


L754 ***A****: 1 for $8.75*
B*: 2 for $15.25*
C*: 3 for $20.50*

***Mentha piperita* Chocolate Mint - Organic** 18–24" tall. Our favorite mint! Bright sweet refreshing peppermint-patty flavor is a must-have for any winter dried-herb supply. Freshen your breath, settle your stomach, brighten up fruit desserts, garnish ice cream, flavor your favorite meat dish, or scent soaps and salves. We grow chocolate mint to enjoy during our warehouse crew tea breaks and to add to the communal hot cocoa pot. Harvest the leaves before it goes to flower. As with any mint, plant it where you want it forever. Plant in full sun in any decent garden soil. Some say Z5, although many of us have unstoppable patches in Z4. **ME Grown.**

L755* *A: 1 for $8.75 ***B: 2 for $15.25*** ***C: 3 for $20.50***

***Monarda* Bee Balm** Also called **Bergamot** or **Oswego Tea**. Beloved by bees, butterflies and one of the best hummingbird magnets nature has to offer! Wild and wily flowers form with tubular petals on pincushion heads borne above colorful bracts in July and August. Aromatic foliage. Good for borders, for wet areas and for cutting. Infusion of the aerial parts can be used to improve digestion by reducing flatulence. Delicious used as tea or added to meat and bean dishes. Plant 16–20" apart in light shade in moist soil. Thrives in full sun if given adequate moisture or mulched with leaf mold; tolerates most conditions.

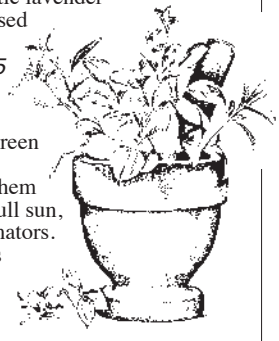


***M. didyma* 'Panorama Reds' - Organic** 3–4' tall. Fabulous blooms in a diverse range of red shades destined to attract scads of butterflies and hummingbirds for your cats and kids to chase in vain. Z3. **ME Grown.**

L756* *A: 1 for $8.75 ***B: 3 for $22.75***

***M. fistulosa* Wild Bergamot - Organic** 2–4' tall. Our native North American wildflower species with aromatic lavender blossoms. This is the species most commonly used for medicinal purposes. Z3. **ME Grown.**

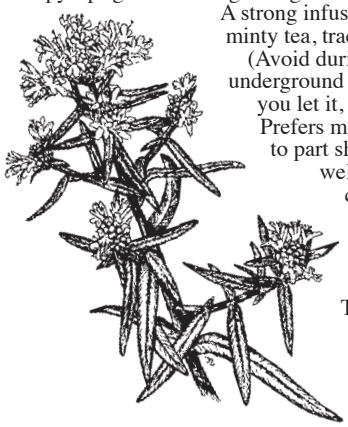
L757* *A: 1 for $8.75 ***B: 3 for $22.75***



***Origanum vulgare* Oregano - Organic** 18" tall. Low-growing perennial with fragrant green and purple leaves and white flowers. This is the culinary oregano—dry the leaves and sprinkle them on pizza all winter. If given plenty of space in full sun, it will sprawl and attract a proliferation of pollinators. Plant 24" apart in medium garden soil. Survives some winters in Zone 3, but we can safely say Z4. **ME Grown.**

L758* *A: 1 for $8.75

***Pycanthemum virginianum* Mountain Mint - Organic** 30" tall. Feed your local pollinators with this densely flowered native. White to light lavender flowers with tiny purple spots bloom July to August. Wispy upright branching foliage smells intensely minty when crushed. A strong infusion of the aerial parts makes a tasty minty tea, traditionally used to settle indigestion. (Avoid during pregnancy.) Spreads by shallow underground rhizomes and will ramble around if you let it, so choose planting location wisely! Prefers moist soil and will do well in full sun to part shade. Once established, it will grow well in a wide range of soils. Tolerates clay, heat and drought. Try growing it along the woodland edge—deer are not fond of this plant. Native to eastern U.S. from Maine to Michigan and south to Georgia and Texas. Z4. **ME Grown.**



L759* *A: 1 for $9.50
B: 2 for $16.50
C: 3 for $22.25

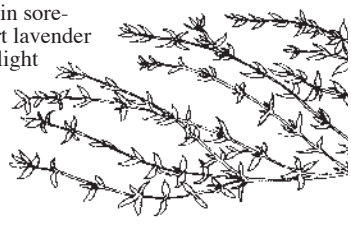
***Salvia officinalis* Garden Sage - Organic** 24–36" tall. Aromatic fuzzy oblong grey-green leaves and light blue flowers. Used fresh or dried, leaves are tasty in stuffing blends, with eggs, cheese, poultry, pork. Sage tea dries up mothers' milk and helps reduce hot flashes. Grows woody with age; replace every 3 years or so. Plant 24" apart in full sun and rich well-drained soil with good fertility. A light winter mulch of straw is highly recommended to prevent heaving. Z4. **ME Grown.**

L760* *A: 1 for $9.50

***Symphytum officinale* Comfrey** 24–48" tall. Also called **Knitbone**. Clusters of bell-like pinkish purple flowers dangle above the deep green bristled foliage. Highly recommended as an orchard companion. Well known for its skin-soothing properties. Contains allantoin, promotes healing of skin and bone; also demulcent for lung and throat. Research on comfrey is inconclusive, but most agree that this species is the one to use medicinally. Easy-to-grow vigorous plant *can be invasive;* be careful where you plant it and control with regular harvest. Choose a site that will never see a rototiller or you will live to regret it! Plant 16–24" apart in well-drained soil, sun or shade. Native to Europe and Asia. Z3. **ME Grown.**

L761* *A: 1 for $8.75
B: 3 for $22.75
C: 6 for $40.75

***Thymus vulgaris* German Winter Thyme - Organic** 10–15" tall. Fragrant sprawling perennial brings depth of flavor to soups, gravies, casseroles. Said to calm the nerves and soothe headaches. As good in salad dressings as it is in sore-throat remedies. Bees love its short lavender flower spikes. Likes well-drained light dry alkaline soil. Plant 18" apart, full sun, in light sandy or loamy well-drained soil. Native to Europe. Z4. **ME Grown.**



L762* *A: 1 for $8.75
B: 2 for $15.25
C: 3 for $20.50

***Urtica dioica* Stinging Nettle - Organic** 3–6' tall. The benefits of this plant outweigh the risk of a short-lived sting. Biodynamic gardeners use the dark green nettles to increase potency of neighboring herbs and to stimulate humus formation. Young shoots are high in minerals—the leaves are delicious steamed as early spring greens or dried and brewed as tea. Handle fresh and dry herb with gloves. Cooking removes the sting. Choose your planting site carefully; nettles spread readily, and both the rhizomes and leaves sting. An indicator of super-fertile soil where it volunteers. Plant in damp rich soil with high nitrogen content; thrives beside manure piles or the lush side of your leaky compost bin. Z2. **ME Grown.**

L763* *A: 1 for $8.75 ***B: 2 for $15.25*** ***C: 3 for $20.50***

***Verbena hastata* Blue Vervain - Organic** 5–7' tall. Elegant tall branching spikes of vibrant blue-purple flowers. Honeybees mingle amongst the blossoms all day. Used as a nervous-system tonic and mild sedative. Tincture of the fresh flowering tops is said to ease stress-induced neck tension, as well as help women to navigate premenstrual, perimenopausal and menopausal waters. Grows wild along streambeds and marshes but will happily grow in ordinary garden soil. Plant 1–2' apart in full sun. Native to North America. Z3. **ME Grown.**

L764* *A: 1 for $9.50 ***B: 2 for $16.50*** ***C: 3 for $22.25***

***Viola sororia* Common Blue Violet - Organic** 6–10" tall. North American native with cheery blue-purple flowers in May and attractive heart-shaped dark green leaves, all edible. Traditionally used as medicinal tonic for the heart. Cook the leaves as you would spinach, or eat them raw in salads for a nice dose of vitamins A and C. If you really want to get fancy, use the blossoms to make a beautiful bright purple syrup. Larval host plant for multiple species of butterflies. Plant 12" apart in full sun to part shade in average garden soil. Z3. **ME Grown.**

L765* *A: 1 for $8.00 ***B: 2 for $13.75*** ***C: 3 for $18.50***

Violet Simple Syrup

A beautiful elegant syrup to add to sparkling water, cocktails or a cup of tea. We like to take it by the spoonful for a quick lift in spirits.

Gently pack a quart jar with violet blossoms.

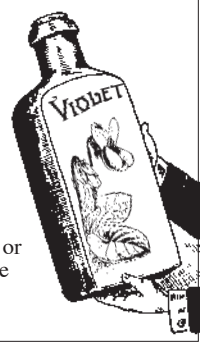
Heat the kettle, cool for 5 minutes, then pour hot water to cover blossoms. Steep for 24 hours.

Strain into a non-reactive pot. For every 1 cup of liquid, add 1/2 cup sugar.

Gently warm the mixture until sugar dissolves. Don't boil it.

Seal in glass bottles or jars and store in the fridge or a cool dark place. Adding lemon juice will change the color in fun, exciting ways. Experiment!

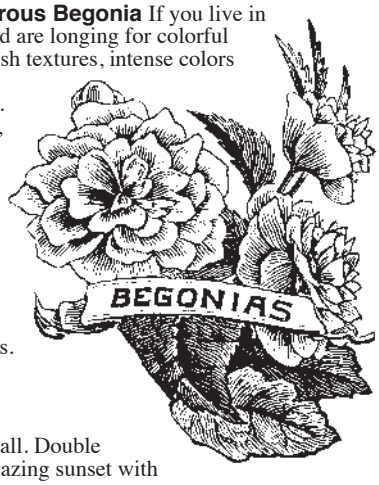
Keeps about 6 months.



Tender Summer Bulbs

Spring-planted bulbs offer wonderful variety to the cutflower market and are a staple in old-fashioned gardens. The bulbs we offer here are not hardy to northern climes. Smart and thrifty people lift and store them over the winter; the rest of us treat them as annuals.

***Begonia* x *tuberhybrida* Tuberous Begonia** If you live in the woods with limited sunlight and are longing for colorful flowers, tuberous begonias offer lush textures, intense colors and a tropical aura that make this tender plant well worth cultivating. Velvety flowers bloom all summer, drooping languidly amidst red-tinted foliage. Excellent bedding or container plants. All are *camellia multiflora* types.



Orange 12" tall. Double flowers.
L766 ***A**: 3 for $14.00*
***B**: 6 for $24.50*
***C**: 12 for $43.75*

Dark Red 12" tall. Double flowers.
L767 ***A**: 3 for $14.00*
***B**: 6 for $24.50*
***C**: 12 for $43.75*

Yellow and Red Picotee 4–9" tall. Double flowers are like a yellow-orange blazing sunset with fine red margins.
L768 ***A**: 3 for $14.00* ***B**: 6 for $24.50* ***C**: 12 for $43.75*

Growing Tuberous Begonias

- After last frost, plant 2" deep, 8–12" apart, in rich moist but not soggy well-drained soil. Place the knobby concave side facing upwards, rounded side down.
- For window boxes, plant 3–5" apart.
- Grows best in a cool spot with indirect sunlight and good air circulation.
- We drench ours with water every other day, feed them weekly and stand back to ooh and ah!

***Crocosmia* x *crocosmiiflora* 'Lucifer'** 24–36" tall. *Lucifer* is Dutch for 'match.' Glows in the garden! Midsummer sprays of bright red flowers open from bottom to top on long arching bronze stems, like bursts of flame above gladiolus-like foliage. Grows well in pots. Makes a long-lasting cutflower. Plant in full sun, 3" deep, 3" apart in moist well-drained soil. May overwinter with protection in Zone 5; colder zones should treat these as annuals.

L769 ***A**: 10 for $9.00*
***B**: 20 for $15.50*
***C**: 50 for $35.00*

Staff reading picks

Read your Fedco Trees catalog cover to cover? Memorized our Seeds & Supplies catalog, too? Here are recommendations to help you through the long winter.

Apple Culture in the Upper Peninsula of Michigan and Wisconsin Border by Russell Magnaghi and David Smith, 2019.
Apple Varieties in Maine by Frederick Charles Bradford, 1911; reprinted MOFGA 2021.
At the Edge of the Orchard: A Novel by Tracy Chevalier, 2017.
The Book of Delights: Essays by Ross Gay, 2019.
Cider Planet: Exploring the Producers, Practices, and Unique Traditions of Craft Cider and Perry from Around the World by Claude Jolicoeur, 2022.
Fruitful Legacy: A Historic Context of Orchard in the United States by Susan Dolan, 2009.
Hardy Apples: Growing Apples in Cold Climates by Bob Osborne, 2022.
Malus, quarterly print magazine (maluszine.com)
The Organic Farming Revolution: Past, Present, Future by Maine Organic Farmers and Gardeners Association with 34 contributing authors, 2021.
Plants, Man and Life by Edgar Anderson, 1952.
Wildflowers of Maine Islands by Glenn Mittelhauser, 2021.
Wild Urban Plants of the Northeast: A Field Guide by Peter Del Tredici, 2010.

Dahlia Breathtaking blossoms from midsummer till frost add incredible late-season value to the cutting garden. Native to hot parts of the Americas and first developed as a food crop, ornamental dahlias are descended from years of breeding and crossing *D. pinnata* and *D. juarezi*.

***D.* Purple Dinnerplate Surprise Mix** Our selection of colors from the purple family. You could receive lavender with dark purple undersides, deep purple, reddish-purple with frosted white tips, or some other fun variation. Our choice—you get what you get.
L770 ***A**: 3 for $18.00* ***B**: 6 for $31.25*

Pompon Surprise Dahlia Mix Pompon-type has petite spheres of fully double blossoms that are nearly perfect in shape and form. A must-have for late summer and fall bouquets. This is a surprise mix—we cannot guarantee you'll receive all the colors shown on our website.
L771 ***A**: 3 for $18.25* ***B**: 6 for $31.75*

Growing Dahlias

- After last frost, plant tubers 3–4" deep, 12–24" apart. Set the tubers flat with eyes facing up.
- Grows best with 3–4 hours of direct sun per day, but will tolerate full sun to light shade.
- **To overwinter,** dig tubers before the last frost, dry them off and store them in a well-ventilated cool (35–45°) dark dry place.

***Gladiolus* Sword Lily** Showy summer bloomer excels as a cutflower. Each stalk is covered with 10 or more open funnel-shaped flowers that bloom from bottom to top. Named for their sword-like leaves; a gladiolus is a small Roman sword. Each stalk blooms for about a week, roughly 8 weeks after planting.

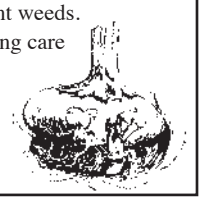
***G.* Large-Flowering Glad Mix** 36" tall. A mercurial mix of colors, stripes, stipples, bicolors, tricolors—what fun!
L772 ***A**: 10 for $5.25* ***B**: 20 for $9.00* ***C**: 50 for $20.50*

***G.* Nanus Glad Mix** 24" tall. Marvelous miniature glads in mixed colors, bicolors and butterfly types. Very satisfying clumped in a bed or as cuts. They're just darling! Some suppliers offer these as Hardy Glads, supposedly hardy in Zone 5. This is optimistic unless you have very good snow cover or winter mulch. Even with mulch, we'd say Z6.
L773 ***A**: 12 for $7.75* ***B**: 24 for $13.50*

***G. murielae* Fragrant Gladiolus** 12-18" tall. Also called **Acidanthera**. Sword-like foliage is topped by wonderfully scented star-shaped 2" white flowers with mahogany-purple centers on arching stems. Beautiful in the garden or as a cutflower; another name is **Peacock Orchid**. Culture like gladiolus, but blooms slightly later. Z7.
L774 ***A**: 20 for $6.25* ***B**: 40 for $11.00* ***C**: 60 for $14.50*

Growing Gladiolus

- After the last spring frost, plant corms in full sun 5" deep and 8" apart.
- Stagger plantings for a long season of blooms: First planting in early to mid-May, then again every two weeks through mid June. This schedule will keep the flowers coming July through August.
- Hill or stake the corms at planting time to keep the plants from keeling over when the foliage and flower spikes get top heavy.
- Mulch with straw to retain even moisture and prevent weeds.
- Cut the stalks when 2–3 blossoms have opened, taking care to spare the leaves, which feed the developing corm.
- **To overwinter,** dig corms after the tops have died, discard the old one, clean the new one, allow it to dry off, and store them in paper bags in a well-ventilated cool (35–45°) dark dry place.



Guide to Planting and Care

When you get your order: Immediate Care
DO NOT ALLOW ROOTS TO DRY OUT AT ALL!!!

When your new trees and shrubs arrive, they need to be planted as soon as possible. Don't be deterred by snow. If you can dig a shovel into the ground, plant your trees. If you wait until spring is in full swing, your plants might become stressed and have a hard time recovering.

Sometimes frozen ground makes immediate planting impossible. When this is the case, follow the instructions below and all will be well. **Why do we send plants even when there is snow on the ground?** The weather may be fickle but we must be steady. Bare-root plants need to move out of storage and travel to their permanent homes before or as they are breaking dormancy, but not much later. For our system to work, we must follow a tight shipping schedule regardless of regional weather conditions. We begin shipping late March and finish late April, sending orders by climate zones, warmest region first.

If you can't plant immediately and are unable to store or heel in plants as instructed below, ordering bare-root plants may not be right for you.

If You Can Plant Woodies Within 48 Hours (Ideal)

Leave the plastic wrapping around the root ball. Add some water to re-moisten the packing material and store your trees and shrubs in a cool shaded place like a shed, barn or cellar. Avoid heat and sunlight.

If You Cannot Plant Within 48 Hours

You can keep plants for a week or two by following one of these temporary measures and continuing to water as needed:

• Open your package and inspect for damage. Fold the plastic back from around the tops of trees and shrubs. Keep the damp shredded newspaper around the roots and re-wrap the plastic around the root ball, packing firmly to eliminate air pockets. Water as needed to keep the roots moist, but don't let them stand in water. Keep the trees in a cool shaded or dark place like a shed, barn, cellar or garage, but don't allow the plants to freeze before you get them in the ground. Avoid heat and sunlight.

• You could also "heel in" your trees in a protected cool shady spot. Dig a trench or turn back an appropriate amount of earth and bury the roots; tamp firmly to remove air pockets. Water thoroughly. Plant in final location as soon as possible.

Caring for Other Plants Until Planting Time

Asparagus

Store asparagus roots dry and uncovered in a cool shaded place.

Hops

Refrigerate slightly moistened rhizomes in a plastic bag until planting.

Horseradish & Rhubarb

Open package slightly to allow the plants to breathe. They should be fine left in their packaging and kept in a cool place (ideally 35–50˚). Keep them moist but not wet.

Mushroom Spawn

Refrigerate in packaging until ready to use.

Strawberries

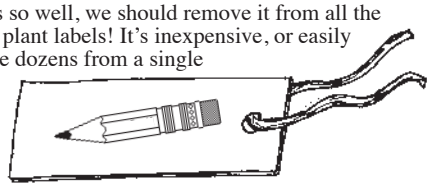
We ship with the roots slightly on the dry side. If it's going to be a while until planting, mist the roots and re-cover. Refrigerate until you are ready to plant. When it's time to plant, do it in the evening or on a cloudy day.

Herbaceous Perennials

Open bags and check the stock immediately. Roots and crowns should be firm and pliable, not squishy or brittle. Surface mold is harmless and will not affect the plant's future performance. Store plants in their packaging in a cool (35–40˚) location until you are ready to plant. If it's going to be awhile, you can pot up your perennials. **See page 57 for more detailed perennial planting instructions.**

The Perfect Tree Label

Commercially available garden labels do not last. Permanent marker fades. Aluminum tears off in the wind. And so on. We make our own using vinyl siding. It works so well, we should remove it from all the houses and make it all into plant labels! It's inexpensive, or easily salvaged, and you can make dozens from a single piece of siding. Cut siding into strips using a utility knife. Snip strips to length using hand pruners. Drill a hole at one end. Attach with wire. Write on labels with pencil, NOT a marker. Pencil will last for decades.



The basics of tree care outlined here are meant to get you started. Obviously, we can't tell you everything you need to know in a few pages. Some specific information, like location or soil preferences of particular plants, is in the item descriptions. A soil test is useful in determining the specific needs of your site. Fedco's Organic Growers Supply offers a soil testing and fertilization recommendation service. Learn more at fedcoseeds.com/ogs.

Reading, observation, trial and error, and talking with other growers and extension agents can expand your knowledge of trees and shrubs. Consult the OGS book list for recommended reference books. Also, find useful links at our website, fedcoseeds.com/trees.

General Planting Directions for Trees and Shrubs

The best way to ensure your plants will thrive is to follow our cultural requirements. Choose the right site for the plant. Add soil amendments only as needed. Many native plants don't require any fertilization. Fruit trees may need more. (See next page for fruit tree fertilization recommendations.)

To reduce transplant shock, plant on cool cloudy days in the early morning or late afternoon. Soak roots of deciduous trees and shrubs for up to 24 hours before planting, but not longer. Keep the roots from drying out; even a few minutes in the sun and breeze can damage a tree or shrub. Keep them watered and covered until the moment you set them in their planting holes!

Follow these steps for planting:

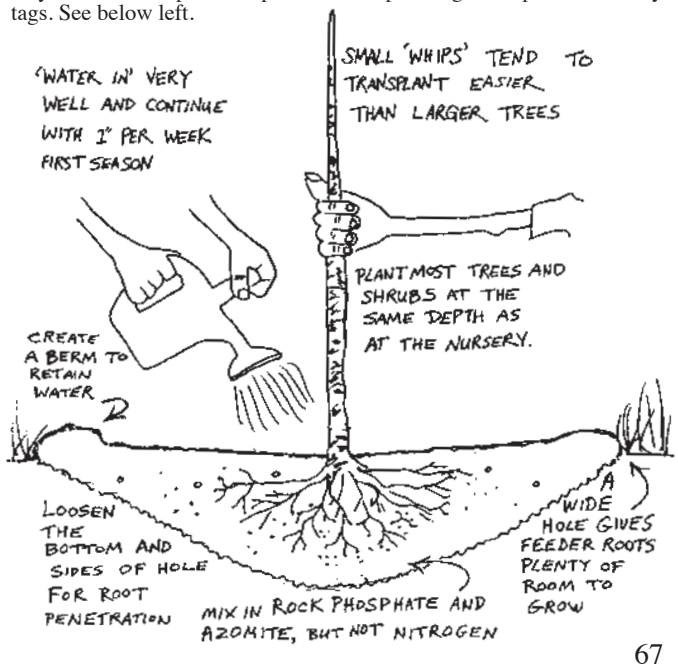
1. Dig a large hole, at least twice as wide and about as deep as the root system. Most roots grow laterally and need plenty of room to spread out. Your trees will benefit if the hole is at least 3' wide.

2. Loosen up the soil at the bottom of the hole and especially around the sides. For fruit trees, if you haven't used our *Deluxe Fall Preparation Method* (next page), you may add a 3-lb bag of our planting mix (available in our **Seeds & Supplies catalog**, or at fedcoseeds.com/ogs), or well-aged compost and mineral fertilizers like rock phosphate or azomite, but *not* raw manure or other nitrogen sources. Incorporate into the soil, then make a mound at the bottom of the hole over which to spread the roots.

3. Examine the plant for a "dirt line" or a change in bark color indicating nursery depth. (This is different from the graft line.) Generally, you should plant trees and shrubs at the same depth they grew in the nursery. Set the plant in the hole and spread the roots out around the mound. Make sure the roots are not circling in the hole. It's better to trim roots a bit than coil them. Hold the plant at the right depth as you backfill the soil around it. Tamp firmly to remove air pockets.

4. Water immediately. Don't skimp on the initial watering; make sure there's plenty to settle in all the loosened soil. Wiggle the trunk as the water seeps in to ensure no air pockets remain around the roots. Leave a berm around each tree so water will not run off. Keep trees well watered throughout the first summer. They require the equivalent of 1–2" rain per week. Longer deeper soakings are effective; frequent sprinklings are not.

5. To remember which varieties you planted, paint a map of the orchard on your wall, or replace the plastic Fedco plant tags with permanent vinyl tags. See below left.


'WATER IN' VERY WELL AND CONTINUE WITH 1" PER WEEK FIRST SEASON
SMALL 'WHIPS' TEND TO TRANSPLANT EASIER THAN LARGER TREES
PLANT MOST TREES AND SHRUBS AT THE SAME DEPTH AS AT THE NURSERY.
CREATE A BERM TO RETAIN WATER
LOOSEN THE BOTTOM AND SIDES OF HOLE FOR ROOT PENETRATION
MIX IN ROCK PHOSPHATE AND AZOMITE, BUT NOT NITROGEN
A WIDE HOLE GIVES FEEDER ROOTS PLENTY OF ROOM TO GROW

Choosing a Site for Fruit Trees and Berries

The best sites for fruit crops have well-drained fertile soils, protection from wind, good air drainage and full sun. A gentle slope and 6–8 hours of full sun per day is ideal. Good air flow will moderate frosts and fungal disease. If possible, avoid "frost pockets."

Sunny south- or west-facing slopes are not advisable for less hardy varieties. These slopes tend to warm up before the danger of frost has passed. Trees may flower prematurely and then be damaged by frost, causing loss of fruit. South and west slopes may also have widely fluctuating early spring temperatures that can damage less hardy trees.

Soil pH for fruit trees should be between 5.5 and 8.0, toward the lower end for apples, the higher end for peaches, and in the middle for others.

Fruit species have optimal space requirements. See chart, next page.

Do not plant trees where power lines will interfere with them.

Fall Preparation or Spring Initial Feeding for Fruit Trees

If you're interested in preparing locations for your trees this fall, or for feeding newly planted fruit trees, the following amendment recipe should address most sites in the eastern U.S., which tend to be acidic and moderate to low in calcium and phosphorus. To order any of these products, refer to our Seeds & Supplies catalog, or fedcoseeds.com/ogs.

Deluxe Fall Preparation Method

Without digging the hole, cover an area 4–6' in diameter with:

- 5 lbs gypsum or Hi-Cal lime
- 5 lbs colloidal phosphate (short-term calcium and phosphorus)
- 5 lbs azomite (long-term minerals and trace minerals)
- 5 lbs granite meal (for improved soil texture)
- 2-3 lbs Hum-Amend Max (aids mineral and rock-powder breakdown)

For building high levels of humus, also add:

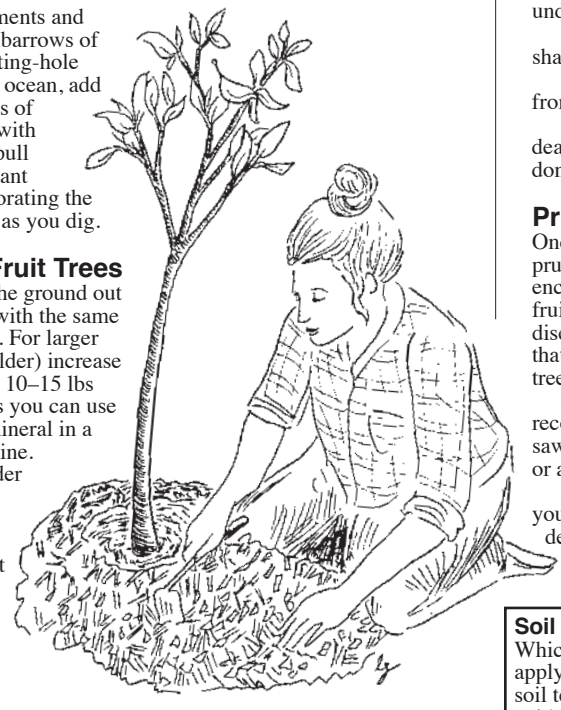
- 2 lbs alfalfa meal
- 2 lbs bone char
- 2 lbs kelp meal
- 2 lbs blood meal
- 100 lbs compost (1/8 yard)

Cover with a 3–4" mulch of lawn clippings, leaves or brush chips, which will smother the sod, conserve moisture, prevent leaching and provide a habitat for soil organisms to break down the recipe. In the spring, pull back the mulch and dig your tree hole, incorporating the mineral supplements and compost into the backfill.

If you didn't get around to fall prep, you can apply this same mix as a mulch to your newly planted tree in the spring.

Simpler Method

Forgo the soil amendments and simply pile 1–2 wheelbarrows of compost on each planting-hole site. If you live by the ocean, add a couple wheelbarrows of seaweed. Then cover with mulch. In the spring, pull back the mulch and plant your fruit tree, incorporating the compost into the hole as you dig.



Feeding Older Fruit Trees

Cover the surface of the ground out to the tree's drip line with the same materials listed above. For larger trees (five years and older) increase the mineral amount to 10–15 lbs each. For ancient trees you can use up to 25 lbs of each mineral in a ring beneath the drip line.

For revitalizing older fruit trees, you could also consider using our Ancients Rise fertilizer mix, found at fedcoseeds.com/ogs.

Mulch as described above.

Initial Pruning at Planting Time

All Trees and Shrubs

Prune any branches that were broken during shipping. Sometimes we need to prune a central leader in order to fit a tree into a shipping box; don't worry—a new leader will grow from the topmost bud. Prune all dead or injured branches and roots. Further pruning of most trees is not necessary at planting time.

Do not prune tops or prune or bend tap roots of nut or oak trees unless necessary.

Find general information on pruning on p. 46. Conifers (p. 43), roses (p. 48) and lilacs (p. 51) benefit from special pruning especially in later stages of growth.

All Fruit Trees

Avoid excessive pruning on young trees, as it can delay bearing. It's okay to cut off extra trunks and lateral branches to establish the tree's basic shape, but keep in mind that every time you prune potential leaf-bearing branches from a young tree, you set it back. The tree will grow quickly and fruit sooner if you allow it to maximize photosynthesis. Once it begins to fruit, you can prune annually. Always remove suckers or root shoots.

On peaches and plums, the trees may want to develop 2–4 leaders, or an open-vase shape. Always prune just above a good strong bud that faces a direction you'd like your branch to grow. On apple and pear trees, you may choose to either leave the central leader alone and let it grow or cut it back according to the instructions below. Either way is acceptable; it's a matter of personal preference.

Apple Trees

Apple trees will almost always benefit from light initial pruning to establish shape. After that, refrain from pruning until the tree begins to fruit.

- **Year one (initial planting time):** If the tree is a branch-less "whip," you may cut the top back to a strong bud about 3–4' from the ground. This will encourage branching. If the new tree arrives with branches, prune off all but 3–4 branches at the height you'd like for your first tier, about 3–4' from the ground, or higher if you prefer. The lowest scaffold (branch layer) should be very wide to collect as much sun as possible. If too low, these long branches will rest on the ground under the weight of fruit, and the deer will have a field day. Also, it becomes difficult to mow under and mulch.

Some folks choose not to prune at the time of planting and wait to shape the tree in subsequent years. This method is fine, too.

- **Year two:** Trim off root suckers or other odd branches that come up from around the base. Otherwise, leave the tree alone and let it grow.
- **The next few years:** If something looks really crowded, broken or dead, prune it. Otherwise, leave your tree alone and let it grow. If you don't fuss over it too much, you'll get fruit sooner!

Pruning Established Fruit Trees

Once your fruit tree begins to bear, you should prune annually. Good pruning brings sunlight to all parts of your tree. Maximum sunlight encourages more and higher-quality fruit. Sunlight also encourages fruit buds to form for next year's crop. Good airflow discourages fungal diseases and promotes greater spray penetration. There's an old saying that a bird should be able to fly through your fruit tree. A well-pruned tree will produce larger fruit and will tend toward more annual bearing.

Most pruning should be done in late winter or early spring. We recommend a good-quality pair of hand shears and a lightweight pruning saw. You may also wish to invest in long-handled loppers, a pole pruner or a pole saw. Keep your pruning tools sharp for smooth clean cuts.

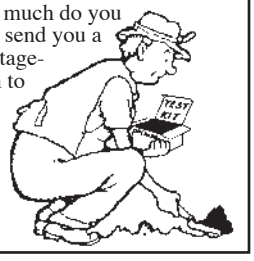
Any good book on growing fruit trees will have the information you need. Consult old and new books as well as orcharding articles and develop a system that works for you. Pruning is not difficult and will make a huge difference.

Orchard Ladders: Sturdy lightweight traditionally shaped wooden orchard ladders have wide bottoms for stability and narrow tops for easy handling and placement. Contact the manufacturer:

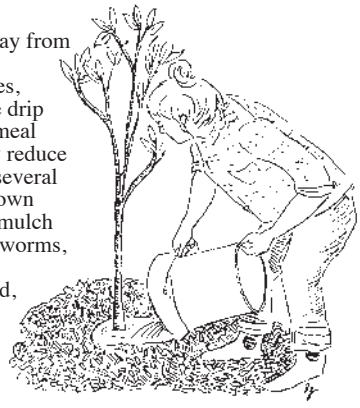
Peter Baldwin, (207) 722-3654
baldwinpetert@gmail.com
baldwinappleladders.com

Soil testing & organic fertilizer recommendation service

Which soil amendments do you choose and how much do you apply? Don't guess—test! Fedco can help. We'll send you a soil test kit and sampling instructions, plus a postage-paid box to return your soil sample and test form to the Maine State Soil Lab. Once your results are in, we'll offer customized recommendations for how to correct any deficiencies or imbalances in your soil. Cost is $50. **Learn more about this service in our Seeds & Supplies catalog**, or at **fedcoseeds.com/ogs**.



Mulch



Keep weeds and especially grass away from new trees and shrubs. Apply a 2–4" mulch of composted material—leaves, wood chips or hay—out as far as the drip line. A 1/2–1" topdressing of alfalfa meal beneath the mulch may substantially reduce transplant shock. Keep mulch back several inches from the tree trunk. We lay down cardboard or newspaper and spread mulch on top of it. Mulch encourages earthworms, holds moisture, keeps down weeds, insulates against excess heat and cold, aerates and loosens soils, builds humus and fertilizes feeder roots, 90% of which are within 6" of the surface.

Staking & Crooked Trees

Newly planted standard-sized and semi-dwarf fruit trees and ornamental trees seldom need staking. If your tree is in a very windy site or develops a leaning habit, staking may help. Dwarf apple trees do require staking. Drive a stout post near the tree. Wrap the tree trunk with a scrap of burlap or rubber to protect against abrasion. Secure the wrapped part of the tree to the post with string or wire. Tie tree somewhat loosely, as a slight rocking motion will encourage rooting. Once roots are well anchored, the stake may not be needed. Mark small trees with a stake with ribbons to warn operators of lawn mowers, tractors, cars and skidders.

Some tree varieties naturally tend to grow a little crooked (like Redfield apple!), and they won't grow straight no matter how much room we give them in the nursery. To mitigate this issue, you may try staking. You may also try planting the crooked tree so the roots are at a slight angle and the top is more upward-pointing, as if to split the difference. Most trees do not grow perfectly straight. Retraining your eye to appreciate a tree's unique form may be easier than fighting nature.

Spacing of Fruit Trees, Nut Trees & Berries

	between plants	between rows
Apples, Dwarf	5–15'	15'
Apples, Semi-dwarf	15'	15'
Apples, Standard	25–30'	25–30'
Asparagus	1–2'	4'
Blackberries	3–4'	6–12'
Blueberries, highbush	3–6'	8–10'
Blueberries, lowbush	1'	1'
Grapes	8'	8–10'
Hazelnut	4–6'	hedge
Nut trees - orchard	35'	35'
Nut trees - forest	20'	20'
Pears, Asian Pears	20'	20'
Raspberries	2'	6–12'
Stone Fruit	15–20'	15–20'
Strawberries	see instructions, p. 29	
Sweet Cherries	25'	25'

Beware the Apple Borer!

In many parts of central and northern New England the roundheaded appletree borer, *Saperda candida*, is the number one enemy of young apple, crabapple and quince trees. If you are growing young apple trees in these locations, you must protect your trees from this pest. Farther south and north the borer may not be an issue. If you don't know if they are a problem in your area, check with any grower near you: they'll know. Otherwise, err on the side of caution. Also feeds on other members of the rose family, such as pear, hawthorn, Aronia and Amelanchier.

Borer beetles lay eggs under the bark near the base of the tree. The developing larvae tunnel through the wood, weakening the tree until it eventually falls over. The trouble sign is small deposits of orange sawdust, called frass, at the base of the tree. Check lower trunks for frass and tunneling in late May, and again in September. Left unchecked, borers usually mean death for young trees.

Here are our strategies for controlling borers:

Coat the trunks with Neem or Paint

• **With Neem Oil** We have been experimenting with several methods for treating borers using neem oil. It's easy and effective. All you need is a paintbrush and undiluted neem oil warmed to liquify. Paint neem on young tree trunks from the soil line up 12". We apply one time only around July 1. If applied in May or early June, the neem dries and becomes ineffective.

Note: We have noticed that the adventitious root bumps of M111 show some sensitivity to undiluted neem. We're having good results spraying a 2% neem solution on the trunks of M111 and other clonal rootstocks.

• **With Paint** After neem oil, paint is likely the best deterrent. It's easy and requires no hard-to-find ingredients. Do not apply paint until trees have been in the ground for 3–5 years. Until then, be sure to continue monitoring them for signs of borer.

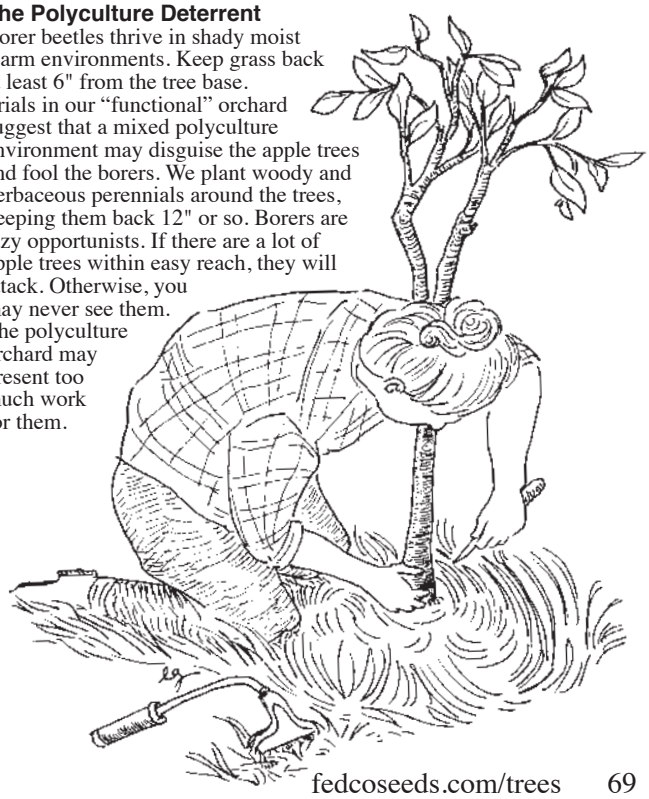
Recipe: Mix white interior latex paint with joint compound. (The stuff you smear on sheet rock joints and nail holes—you can buy a small tub at any hardware store. Make sure to use *interior* paint, as some exterior paint formulations contain ingredients that can harm the tree's phloem.) The consistency should be thick but still quite easy to paint, not glob on. Repaint as needed. This mix will help deter borers and also make detection of infestations easier. Once you locate a borer hole, you'll have to cut or blast it out (see below). Look for the orange frass!

Cut It Out Once you've identified a hole or soft spot in the trunk, insert a wire and dig around until you locate and kill the larva. Cut away soft spongy pockets with a knife. Even serious carving is less harmful to the tree than leaving the larvae alive inside.

Blasted Borers When you discover a soft spot or hole in the tree, get yourself a can of compressed air (for cleaning computers). Put the long skinny tube nozzle up to the hole and give it a blast. Should do the trick.

The Polyculture Deterrent

Borer beetles thrive in shady moist warm environments. Keep grass back at least 6" from the tree base. Trials in our "functional" orchard suggest that a mixed polyculture environment may disguise the apple trees and fool the borers. We plant woody and herbaceous perennials around the trees, keeping them back 12" or so. Borers are lazy opportunists. If there are a lot of apple trees within easy reach, they will attack. Otherwise, you may never see them. The polyculture orchard may present too much work for them.



Scab in the apple orchard

Apple scab (*Venturia unaequalis*) may be the most challenging disease for the New England apple grower. Scab is a fungus, spread by spores that overwinter in fallen fruit and leaf litter, rising up in rainy spring weather to cause grief all over again. It appears as small rough black patches on the fruit or foliage. A bit of scab is not a bad thing. It won't hurt you or your tree or fruit. Some growers actually believe that a small amount of scab triggers a beneficial self-protection response in the apple. But a lot of scab can destroy the fruit and even kill the tree. Severity of infection can vary depending on the year, the site, and the variety.

With organic or conventional fungicides as a last resort, what can you do to avoid or minimize scab damage in your trees?

• **Avoid susceptible varieties.** Although nearly all apples are susceptible to some extent, certain varieties are especially vulnerable to scab. In particular, McIntosh and its relatives are scab magnets. These include Cortland, Fameuse and Macoun. If you grow these apples, you'll probably struggle with scab in your orchard. If you can avoid these varieties, you may be able to keep scab to a tolerable level without spraying fungicides. Most heirlooms can be susceptible but should be quite tolerant as long as the more highly susceptible varieties are kept away.

In 1945, Purdue, Rutgers and the University of Illinois began a collaboration to develop scab-immune varieties. Many of these have PRI in their names. (Prima, Pristine, Williams Pride, etc.) They bred the varieties using *Malus floribunda* as a parent. It contains a gene that imparts scab immunity to the fruit. By crossing and recrossing, they were able to isolate and include this gene in the final introduction. We've offered some of these varieties, including GoldRush from the PRI program, and Liberty from the associated New York breeding program. If you like the fruit from these varieties, growing them can be a good strategy for avoiding scab.

• **Thin the fruit.** In late spring or early summer, we thin all our tree fruit, removing enough fruitlets that the mature fruits won't touch. You want air circulation. Insects also like those places where fruits rub against each other.

• **Clean up drops and fallen leaves.** Scab lives in the drops (fallen fruit), as do insects. Eat the drops, make them into cider, feed them to your livestock or compost them—just don't leave them at the base of your trees. Some farmers let livestock in the orchard to eat the drops. Also rake up leaves in the fall. Burn, compost or mow them. By practicing good hygiene in the orchard, some growers have been able to grow good McIntosh and other disease-prone varieties organically.

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Come shop for supplies at our Organic Growers Supply warehouse at 688 Bellsqueeze Road in Clinton, ME, or order online at fedcoseeds.com/ogs or through our Seeds & Supplies catalog to have these orchard essentials shipped to you.

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- Fruition Mix for fertilizing established fruit trees
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- Hole-istic Spring Planting Mix
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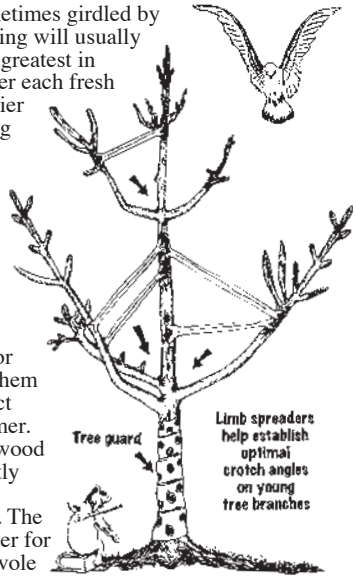
Protecting Trees from Mice and Voles



Fruit trees and ornamentals are sometimes girdled by mice or voles eating the bark. Girdling will usually kill the tree or shrub. The danger is greatest in winter. Stomp around the trunks after each fresh snowfall to create a packed-ice barrier that will prevent mice from traveling beneath the snow. Keep the grass mowed in the fall and remove large mulch piles from near the trunks. Rodents like to nest in hay more than in woodchip mulches. A wrap of hardware cloth or a plastic spiral tree guard can protect your tree from being girdled.

If you use screening or plastic spiral tree guards on apple, quince or crabapple trees, be sure to remove them from April to October, as they attract borers if left on the tree in the summer.

Our trials show that a mulch of wood chips surrounding young trees greatly reduces the chance of summer vole damage. Tall grasses invite them in. The polyculture model may provide cover for the voles and can result in summer vole damage. So keep the tall perennials back about 12" from the tree.

Also, make your orchard hawk friendly.

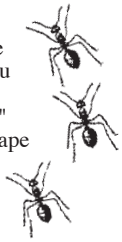
Voles Don't Like Narcissus!

For many years we've been planting daffodils around the base of some of our apple trees. No particular reason; it just looks great. Come to find out that you can beautify your orchard and deter voles at the same time. Plant daffodils in a circle a foot or two away from the base. The tunneling voles don't like the bulbs and will veer away.

Oh Dear, Deer!

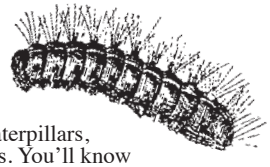
The best deer protection is a dog in the yard. If you don't have one or if your orchard is too far from the house, an 8' deer fence will work. Some people have good luck with electric fences. Small protective enclosures for individual trees can be made by circling your tree with a cylinder of chicken wire or other fencing with t-posts to stabilize the cage.

Aphids and ants



Aphids can do a lot of damage to apple trees and they make the young leaves look gross. Often when you see aphids you will see ants climbing up and down the tree feeding them. Here's an easy solution. Wrap a piece of stiff paper about 6" wide around the trunk about a foot or two off the ground. Tape this sleeve to itself but not to the tree. Smear Tanglefoot (available in our **Seeds & Supplies catalog**) on the paper. Ants will not cross the barrier and, without the ants, the aphids will die. In a day or two no more aphids.

Caterpillars



Most caterpillars will not damage healthy plants and are important members of the environment. However, a few kinds, such as tent caterpillars, are extremely destructive to fruit trees. You'll know when you see them—they hatch in large crowds and rapidly defoliate plants. Vigilant daily observation, manual collection and disposal are necessary from mid-summer to fall. Be careful handling browntail moth caterpillars (see page 21). They can cause a severe rash.

Tools and books are in our Fedco Seeds & Supplies catalog, or at fedcoseeds.com/ogs

Laura Childs composed the cover with assistance from the ghosts of the ancient public domain. Original catalog art by John Bunker, Phoebe Bunker, Laura Childs, Lauren Cormier, Gene Frey, Laura Grover, Samantha Jones, Laurie Lange, Mark Kelly, Melissa May, Sarah Oliver, Emily Skrobis, Elizabeth Smedberg, Leslie Stem, Sue Szwed, Rachel Thieme, Gabriel Willow.

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USDA Hardiness Zone	Average Minimum Temperature
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3	-40° to -30°
4	-30° to -20°
5	-20° to -10°
6	-10° to 0°

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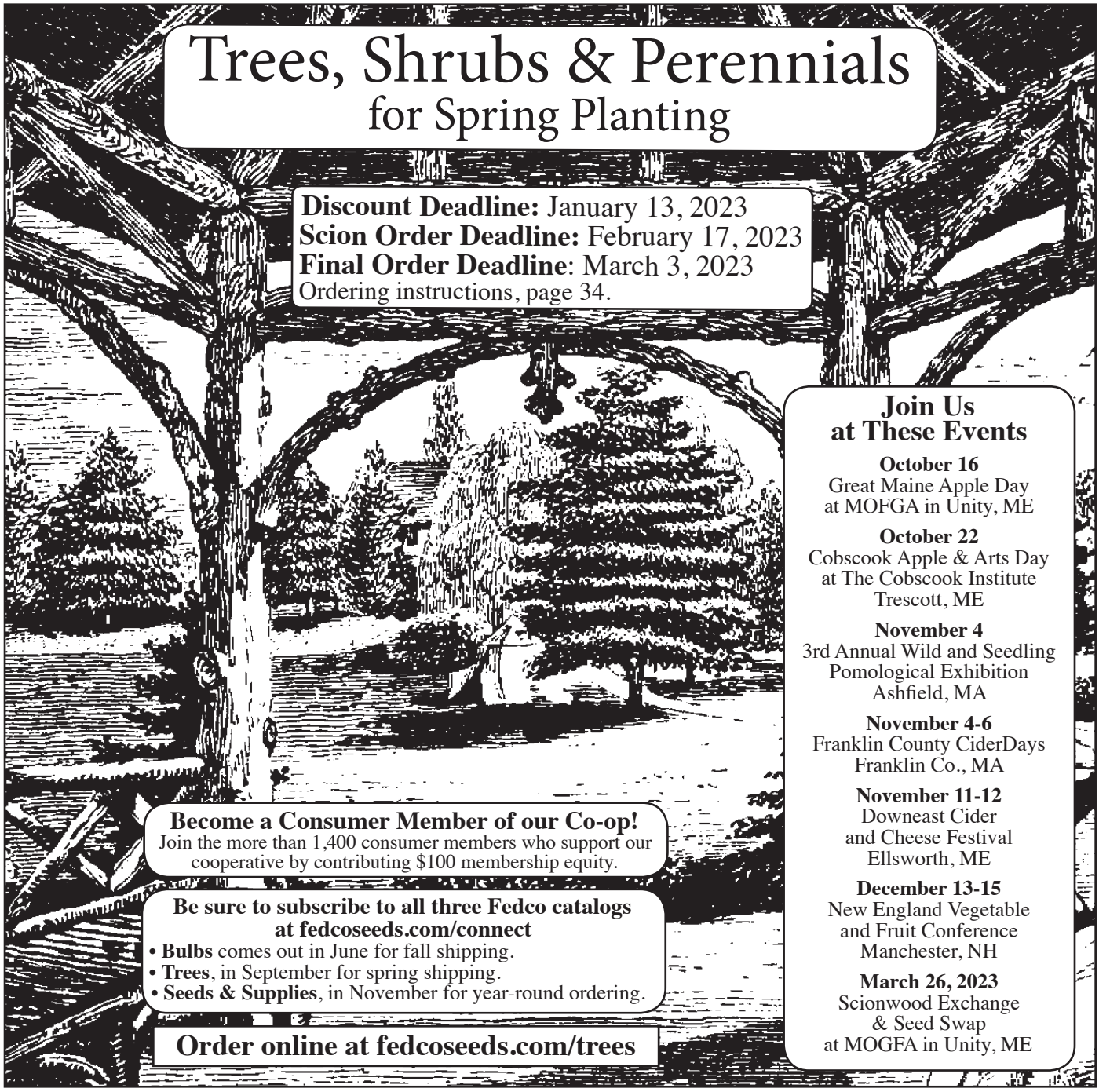

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